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HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES.
JANUARY—JUNE,
1856.

PRINTED BY J. E. ADLARD, BARTHOLOMEW CLOSE

THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING
A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS:
TOGETHER WITH A
SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND
THE COLLATERAL SCIENCES DURING THE SAME PERIOD,

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Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

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N.B. Every periodical here specified is consulted *directly* by the Editors and their Coadjutors.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A) HYGIENE.

ART. 1.—*The Atmosphere in relation to Disease.*

By Mr. J. A. HINGESTON, of Brighton.

(*Journal of Public Health*, Dec. 1855.)

THE following remarks are taken from an elegant and admirable paper, the merits of which cannot be properly represented in any abstract. Mr. Hingeston agrees with many in thinking that the body sympathises very closely with the electrical condition of the atmosphere, and he gives a hint which promises to be of much practical importance—that the clouds, which are, indeed, analogous, more or less, to Leyden jars, may serve as signs of the electrical condition of the atmosphere.

“We have some facts,” Mr. Hingeston continues after many excellent remarks, “to show cause why we should connect disease with the greater or less amount of electricity, signified by the electrometer. It would seem that, in the non-electric states of the air, diseases of a low type prevail. Thus, in the Registrar-General’s return for the week ending July 14th, 1855, we find it stated, at p. 232, ‘weak positive

electricity throughout the week ; and, on referring to the mortality of the same date, at p. 225, it is there recorded, that the chief deaths were from smallpox, hooping-cough, scarlatina, diarrhoea, and typhus. And thus, on the contrary, in the week ending September 8th, at p. 296, the electricity is stated to be 'positive,' and the mortality, at p. 289, to be 'not high for the season.' During the prevalence of Asiatic cholera, the electricity is weak, or nothing : thus, in the week ending September 16th, 1854, on the 13th and 14th September, when cholera was at its maximum, the electricity, p. 377, is stated, 'none was shown.' Thus, again, for the week ending September 22d, 1855, at p. 305, the mortality 'shows a decrease of about 100 in each of the three previous weeks, and indicates a satisfactory state of the public health ;' while, at p. 312, it is recorded that the electricity is 'positive,' 'strongly positive,' and 'active throughout the day.' Were we to connect health with positive electricity, as a settled thing, we might point out a curious connection between the deaths of the young and the continuance of a highly electric state of the atmosphere ; but, as coincidence is not the same as cause and effect, we can only mention the isolated fact, that, in the week ending October 13th, 1855, it is stated, p. 333, that out of 870 deaths (or 225 below the average), 449 (or about one half) were in persons under twenty years of age ; the electricity (p. 340) being both positive and strong, as it had been for several weeks past. It would be pushing the facts too far, and laying ourselves open to the imputation of forcing a favorite theory to suit a particular purpose, were we to enlarge the number of our examples ; but they are endless, and we disclaim any theory whatever. Let the medical inquirer make his own references, and judge for himself. Does positive electricity, long continued, predispose to inflammatory ailments ? For, in the week ending October 27th, 1855, the electricity being, as it had been, both strong and positive, we find, p. 349, three cases of peritonitis particularly reported.

"If we consider that every living creature is as much an electrical machine as each cloud ; that the earth itself is the largest and most powerful electrical machine of all ; and that all things are always exchanging their electricities with each other ; and, furthermore, that a strong electro-galvanic current passed from the nose to the tail of a living mouse, can kill it on the spot ; that a simple electric stroke will abolish the life of a fly ; and that lightning destroys myriads of insects, as well as some animals and human beings, at a single flash, it is past contradiction that electricity must be a grand actor in every form of life, whether of health or disease. If we take an electrometer, and pass a powerful stream of electricity into it from a large electrical machine in full play, the gold leaf within the electrometer is whirled round with violence, shivered into atoms, and sent flying in fragments to the inside surface of the glass, in desperate haste, to escape and distribute the excess of electrical fluid to the nearest non-electrical bodies. It is, in fact, a tornado within the bottle ; like the tornadoes of the tropics, which are, most likely, nothing else than convulsive equalizations of unequal electricities on a gigantic scale. The violence of the winds, if not their directions, seems to be electro-magnetic. There are storms that disturb the magnet, or the electrometer, or

both at once. And the partial rarefaction of the air by heat, and its condensation by cold, hitherto employed for explaining the force and current of the winds, are, most likely, only striking parts of terrestrial electro-magnetism. The tornado within the bottle is a practical exemplification of this supposition. Moreover, the sensorial effects of the electric fluid are proof paramount of its pathological energy. The tingling produced by a shock from an electrical machine in action, and the blindness, or loss of consciousness, or death, produced by lightning, exhibit the development of morbid phenomena too plainly to be mistaken. We have, therefore, every possible reason for regarding the kind of clouds as indications of the kind of atmosphere in relation to disease; and the various forms assumed by the vapours condensing or dissolving in the air may be considered, not only as picturesque beauties in the landscape we are occupied in watching or sketching, but also as criteria for judging of some of the most potent effects resulting from the operation of an experiment, silently and delicately performed upon the functions and sensations of animated beings. These signs only require reducing to some familiar characters, in order to render them practically serviceable; and then, when once recognised, they might be read off at a glance, and brought into daily use, as easily as the dial-plate of the electric wire, the gauge that indicates the steam pressure of a locomotive, or the minute hand of our watch in counting the pulse at a patient's wrist."

ART. 2.—*The Season in relation to Disease.*

By Dr. B. W. RICHARDSON.

(*Journal of Public Health*, Dec. 1855.)

"The distinguished Arbuthnot laid it down as an aphorism, that every season has its special diseases. This is in some measure true; but as the seasons of one year vary very much from the seasons of another year, and as the division into seasons is, after all, arbitrary, the rule must be received with many exceptions.

"The prevalence of diseases as a whole, and of the mortality arising from them, is, however, well marked in various periods of the year. I made a careful analysis of the facts bearing on this subject two years ago, and obtained very important results. The analysis refers only to the diseases of certain parts of England, and is made from mortality tables—viz., those published by the Registrar-General; but, from its wide basis, its results give a fair picture of the special season diseases of England.

"The analysis includes deductions made from not fewer than 139,318 deaths, occurring during years extending from 1838 to 1853, and arising from the following diseases—smallpox, measles, scarlet fever, hooping-cough, croup, diarrhoea, dysentery, cholera, influenza, ague, remittent fever, typhus, erysipelas, quinsy, bronchitis, jaundice, and carbuncle. The districts of deaths were London, Devon, and Cornwall.

"Out of the 139,318 cases thus chronicled as occurring from the above-named diseases, the per centage of mortality in the different

quarters, and estimating the gross mortality according to the season, without reference to particular years, ran as follows:

In January, February, and March ..	25 per cent.
In April, May, and June ..	21 "
In July, August, and September ..	24 "
In October, November, and December ..	28 "

"Having learned thus much, I set about ascertaining, on the same large scale, whether the fatal diseases were in any way special to the seasons. The answer to this inquiry is to this effect:

"Hooping-cough, croup, smallpox, and bronchitis are most common to the first quarter. The per centage is:

	1st Quar.	2d Quar.	3d Quar.	4th Quar.
Smallpox ...	27,352	24,551	22,824	25,272
Hooping-cough...	32,704	27,825	17,116	22,354
Croup ...	27,523	25,100	19,919	27,456
Bronchitis ...	36,793	20,301	10,327	32,570

"Pneumonia, I believe, might very properly have been added here. "In the second quarter, quinsy only stands ahead—thus:

	1st Quar.	2d Quar.	3d Quar.	4th Quar.
Quinsy ...	21,762	30,596	21,231	26,410

"In the third quarter, diarrhoea, dysentery, and jaundice take the lead, in the following order:

	1st Quar.	2d Quar.	3d Quar.	4th Quar.
Diarrhoea ...	10,196	10,717	58,519	20,567
Dysentery ...	15,638	13,541	42,460	28,340
Jaundice ...	24,877	24,030	26,967	24,109

"In this third quarter, Asiatic cholera, when epidemic, assumes a greater mortality and prevalence than at any other season. Sporadic cases of cholera are, however, possibly more prevalent in the fourth quarter, during which influenza, ague, remittent fever, typhus, scarlet fever, measles, erysipelas, and carbuncle take the lead:

	1st Quar.	2d Quar.	3d Quar.	4th Quar.
Influenza ...	23,539	12,171	4,502	59,784
Ague ...	22,857	24,285	20,000	32,851
Remittent fever .	23,077	26,315	23,481	27,125
Typhus ...	25,741	24,825	22,912	26,521
Scarlet fever ...	20,809	18,978	26,234	33,976
Measles ...	19,864	21,466	26,234	32,434
Erysipelas ...	25,144	23,444	22,337	29,174
Carbuncle ...	26,771	19,685	24,409	29,133

"In a pathological as well as in a statistical point of view, these results are most interesting; for they prove, in a great measure, that

diseases analogous in their general characters group themselves singularly together at special periods. Thus we see that, in the autumn quarter, there are grouped together those diseases which have for one of their essential symptoms an exudation from the intestinal surface, or that large abdominal viscera the liver. In the first quarter, the diseases of the respiratory system—croup, hooping-cough, and bronchitis—stand forth prominently; while in the fourth quarter, a large family of diseases of the febrile or inflammatory order take the first position.

“It is not by mere accident that these divisions occur: they are the effects of fixed, though nearly unknown physical or chemical laws.

“It is worthy of special remark, that in the present quarter of the year—the fourth—the number of diseases which cause a prominent mortality is, as a general rule, greatest; and that next to it is the quarter commencing with the new year. During the third quarter of the present year, the mortality has been lower than is usual; a result due to the absence of any zymotic disease in a virulent form. As the cold of winter more decidedly sets in, we shall begin to see developed, almost of necessity, an increase of deaths from pulmonary diseases, and of low fever amongst the poor, if provisions become high in price and insufficient in quantity or quality.

“In public practice, it is almost always to be observed that diarrhoea is a common symptom amongst the poor during intensely cold weather. In this form it does not, however, prove very fatal; and hence it stands low at that time in the mortality returns.”

ART. 3.—*The influence of Temperature upon Mortality.*

By Dr. BUCHNER.

(*Nederlandisch Lancet*, Feb. 1855; and *Medical Times and Gazette*, Nov. 10, 1855.)

The author's investigations, carried on during twelve years, from 1841 to 1852, on the influence of the temperature of the air on the mortality of the population of Amsterdam, have shown that the greatest mortality occurred in the month of March (on an average, 686 individuals), after which come January (685), December (651), April (591), February (589), October (573), November (567), May (564), September (554), July (553), June (509), August (489). The difference between the months, in which the greatest and least mortality took place, amounted for the twelve years to 2365 persons, or a yearly average of 197.08. Of the seasons, the greatest mortality belongs to winter (December, January, and February), the next to spring (March, April, and May), the next to autumn (September, October, and November), while summer (June, July, and August) affords the smallest number of deaths. The difference between the mortality in the winter and summer months amounts to 4500 persons, giving a yearly average of 375; that between spring and autumn is 1771, or 147.58 annually. On reviewing the several seasons, in connection with their average temperature, it appeared that, in the years in which the spring months were warm, the mortality was considerably less than in those in which the temperature was below the average. In

the summer months, the mortality was highest during great warmth; this was also true of the warmer autumnal months, while, during the winter months, the mortality rose with severe cold, confirming for Amsterdam the position laid down by Moser, that elevation of the temperature above the ordinary range diminishes the mortality of winter, and increases that of summer. In very warm and very cold months, the mortality at Amsterdam appears not to be invariably great, while, on the contrary, in those which followed the hottest months, the mortality far exceeded the average. The coldest months of the several seasons are March, June, November, and January; the warmest are May, July, September, and December. As to the seasons, the mortality was greatest in the coldest winters and springs, and in the hottest summers, while the greatest mortality occurred neither in the warmest nor in the coldest month of the season. Great mortality appeared to coincide with high degrees of cold or warmth, in connection with relatively low ranges of the barometer and with drought. A comparison of the weekly mortality with the weekly range of the barometer, did not lead to the establishment of any rule as to the connection between the mortality and the pressure of the atmosphere.

ART. 4.—*The Comparative Mortality of a Manufacturing and an Agricultural district.* By Dr. J. BLACK.

(*Journal of Public Health*, Dec. 1855.)

“ It is well known, from the Mortuary Registers, that there are considerable differences in the rates of mortality in the several districts of the kingdom; and that not only between communities widely situated from each other, but also between large districts in the same county. The principal causes recognised as producing this disparity of mortality, especially as it affects the comparative ages, are, the occupations of the people; their state in regard to habitations, numbers, residence in cities, towns, or rural villages; and the position of these towns, whether in the hilly interior of the country or upon the airy coasts of the neighbouring sea.

“ Among these several causes tending to produce the different rates of mortality, there are none more productive of the unfavorable balance, than the crowded and often ill-ventilated conditions of the factories and habitations of our manufacturing population, aggravated, as these evils are, by an ignorance and want of personal and domestic economy, occasioned greatly by the too early and continued employment of young and of married females in workshops and manufactories.

“ Even where the rate of mortality is shown to be above the average of 23 in the 1000, it is seen, on examining the Register lists, that the excess is not generally found to exist at the ages above ten years, but in the years of infancy and childhood, *i.e.*, up to the fifth or sixth year —those periods of life where, upon the mother’s nursing and care, the life, the ill health, or death of the child depends. The too common ignorance and the want of these duties, among these classes of people have, in many communities, produced an awfully premature destruc-

tion of human life, even to one half of all born alive, before the little victims have attained the fifth year of their age.

“To illustrate the bearings of these different localities and modes of life in two districts, whose centres are within thirty miles of each other, I may cite the comparative rates of mortality, at two separate epochs of life, as they occur in the Registration districts of Bolton-le-Moors and that of North Meols, in which last is situated the rapidly growing town of Southport, on the west coast of South Lancashire.

“These returns were kindly furnished to me by the respective Superintendent-Registrars; and I herewith extract the following results from them, as bearing chiefly on our present subject.

“*Great and Little Bolton*.—The average number of deaths for each year of 1849 and 50 was 1770; and as the estimated population for the latter year was 59,050, this will give 1 in 33.62 of the population, or about 30 to 1000.

“The average mortality for the two years, at and under five years of age, was 52.22 per cent. of the whole deaths; and 17.5 per cent. of the same, at and above sixty years of age, one person being registered as having died at 99.

“*North Meols, including Southport*.—The population, calculated from the last census, was, in 1854, 8920, and in this year, 1855, at least 9000. The average number of deaths for each of the years 1853-54, is found to be 212; making 1 in 42.5 of the population, or at the ratio of 2.38 per cent., or 23.5 to 1000 living. The average mortality for each of the above years, at and under five years of age, was 38 per cent. of the whole deaths; and at and above sixty years of age, 23.1 per cent., the oldest person being registered as 95.

“From the above comparative enumerations, it is seen how much different localities and social conditions affect the relative ratios of mortality. Though the districts under notice are not very distant, one of them is the site of a large manufacturing town—a type of many others, which are held to be unfavorable to early and advanced life; while the other district is a perfectly flat rural country, once an extensive *tarburium*, but since covered over with deep beds of fine marine sand, and later still by loam, and is generally cultivated. On the sea verge of this plain, about six miles in diameter, are situated the three towns of Southport, Churchtown and Crossens, all of which are included in the District Registration, now embracing, as noted above, fully 9000 inhabitants.

“Though the meteorological conditions of the two districts in question are nearly alike, modified only by neighbouring hills in the one, and by the flat sea coast in the other, producing inequalities of temperature between them, the average for both places is nearly the same, and the clothing, diet, and beverages of the people are alike.

“When we come, however, to observe the relative rates of mortality in the aggregate, and at the several ages of life, we see differences, not so marked as in some other districts compared with each other, but sufficiently obvious; for, while the rate of mortality in Bolton is 30 in 1000 of the population, it is in North Meols only 23.5 in 1000—neither of them showing the highest nor the lowest rate, according to Dr. Farr; for while in St. Saviour's, Southwark, 33 die out of every

1000, in Lewisham 17 only die in the 1000; while the average of all England is 23 in 1000, the mortality of males in Manchester being 37 in 1000.

“The greatest disparity of ratio in the number of deaths, is seen at the several epochs of life; for while, in the Bolton district, from a careful examination of the Registers for 1849 and 50, as many as 52.22 per cent. of the whole deaths occur at and under five years of age, only 38 per cent. obtain in North Meols at and under the same age. This excess of infant mortality in Bolton takes place to about the same extent in Manchester and Liverpool; and it is a matter for serious consideration to all social economists, how to diminish or ameliorate it, however well acquainted all practical observers are with the causes producing the evil.

“Again, while in Bolton 17.5 per cent. of the deaths occur at and above sixty years of age, in North Meols 23.1 per cent. happen at and above the same term of life.

“From the respective data of the above two districts, we may be led to infer that the lives of infants and children are, in the one case, taken prematurely away from the toils and evils to come, and, on the other hand, are spared to augment the ratio of deaths in old age. However much truth there may be in these views, it is proper to observe that there are many invalid people, who come from the interior to recruit their healths in the more equable and temperate climate of Southport and Churchtown, and where several of them end their days, and so add a little to the relative numbers of deaths in advanced life.”

ART. 5.—*The influence of Vaccination on the rate of Mortality in France.* By Dr. BERTILLON, of Montmorency.

(*L'Union Médicale*, Aug. 28th and Sept. 11th, 1855; and *Edin. Med. Journ.*, Dec. 1855.)

The following is a *resumé* of a paper which has been submitted for examination to M. Villermé, whose competence for such a task is well known, and upon which he has expressed his decided opinion of the correctness and legitimacy of the conclusions drawn by the author from the different documents and statistics made use of in its compilation.

The benefits of vaccination, tested with so much success for upwards of three quarters of a century, appear to be at the present day unknown to a great mass of the population, since, in 1850, nearly one half of the number of children born were neglected in this respect, and that too at a time when every effort was being made by the Academy of Medicine and the practitioners of France, to extend and publish the advantages of the discovery. The opponents of vaccination rest their assertions upon statistics which are of a nature so deceptive that the doctrines founded on them will, upon examination, be seen to be far from correct. It has been asked by M. Malgaigne, “Is it true that, previous to the discovery of vaccination, a greater proportion of individuals arrived at the age of maturity? The question is a simple one, and is a matter in which the data afforded are well worthy of discussion. By the application of numbers to facts, observation

becomes multiplied by itself. If the data be true, accept their significance; if false, at once assert and prove it." The new doctrine maintains that, since the last century, the mortality in France between the twentieth and thirtieth years is doubled, and attributes to the greater prevalence and fatality of *typhoid fevers*, this increase in the number of deaths. But there are no tables upon which this allegation can be justifiably based, as medical statistics, properly so called, are mostly confined to the present century, and there is scarcely a single document of this nature to be found relating to past centuries. To the labours of a few individuals, however, we are indebted for such statistics as will enable the question to be set at rest, so far as relates to the increased mortality between 20 and 30 years of age, during the present century, or in other words, since the introduction of vaccination. We have, as a mortality table for our own time, a work compiled during the period 1840-49, by M. Heuschling, secretary of the statistical committee of Central Belgium. For the second half of the last century, we are less favorably situated, but we can confidently appeal to the labours of several esteemed authorities, such as Montyon, Messance, and Duvillard.

Montyon, in 1774, published his 'Recherches et Considerations sur la Population de la France'; Messance wrote in 1766 and 1788 his 'Recherches sur la Population Française dans Diverses Généralités'; and Duvillard, so late as 1806, published his celebrated 'Analyse de l'Influence de la petite Vérole sur la Mortalité.' We have thus three tables exhibiting the mortality in France for the second half of the eighteenth, and one for the middle of the nineteenth century, and from these we subjoin the following extracts:

Tables of Mortality. (A)

Ages.	Montyon. 1774.	Messance. 1788.	Duvillard. 1806.	Heuschling. 1840-49.	
0 to 5	470·15	400	416·85	340·30	
5 — 10	52·20	67·5	32	40·70	
10 — 20	44·70	59	48·90	47·85	
20 — 30	62·85	68	64	72	
30 — 40	72·95	64·4	68·80	59·40	
40 — 50	70·80	68·1	72·35	67	
50 — 60	71·80	74	83·50	77	
60 — 70	70·65	86·8	95·90	110·60	
70 — 80	61·69	73·5	83	118·90	
80 — 90	19·25	33·5	30·87	58·60	
90 — 100	2·96	4·8	3·62	6·90	
100 — 105	0·	0·4	0·21	0·15	
Total .	1000	1000	1000	1000	décès.
Vm. = P./N.	23·94	27·9	28·26	34·24	Vie Moy.

Tables of Population. (B)

Ages.	Montyon.	Messance.	Duvillard.	Guillard after Heuschling.	Census of 1851.
0 to 10	254	241	214.40	197	185.25
10 — 20	193	180.50	186.30	175	176.20
20 — 30	148.75	158	165.60	157	163.15
30 — 40	135	134	141.40	137.60	147.50
40 — 50	123	110	116.75	119	124.70
50 — 60	76	84.75	89.40	98	101.50
60 — 70	49.45	55.75	57	70.70	64.70
70 — 80	18.15	27	24.40	36	30.20
80 — 90	2.04	79.0	4.50	8.93	6.34
90 — 100	0.61	1.03	0.44	0.76	0.45
100 — 105	0	0.07	0.01	0.01	0.01
Total	1000	1000	1000	1000	1000

In calculating according to these tables, all that is necessary is to multiply any of the numbers indicating the *population* at any particular age by the number marked v. m. (vie moyenne), and divide the product by the number in the other table indicating the *deaths* (décès) at the same age. This will give the *chance* of death at that age.

Upon this principle the following table is constructed :

Chance of Death at each Age. One Death in—

Ages.	Montyon.	Messance.	Duvillard.	Guillard after Heuschling.	Census of 1851.
0 to 10	12	15	13.5	18	17
10 — 20	103	85	106	124	132
20 — 30	57	65	73	74	80
30 — 40	44	58	58	79	89
40 — 50	42	45	46	61	66
50 — 60	25	32	30	43.50	47
60 — 70	17	18	16	22	21
70 — 80	7	10	8.3	10.35	9
80 — 90	2.5	6.5	4.2	5.20	4
90 — 100	5	5.8	3.5	3.60	2.37
100 —	1	1	1	1	2

The result, as shown in this table, clearly demonstrates that the general mortality in France, between the twentieth and thirtieth years, far from having doubled, or even increased, has, not only at that period, but at all ages, diminished since the eighteenth century. Before such evidence the assertions of the opponents of vaccination fall to the ground, and it only remains for us to examine more spe-

cially the arguments upon which the statistics drawn up by them may be confuted.

In place of collecting their statistics in *all* the departments of France, the anti-vaccination party content themselves with those of *two*, namely of la Côte-d'Or, where most vaccination takes place, and of l'Aveyron, where it is least practised. And in order to exhibit the deplorable effects produced by its agency, they write to the Academy of Sciences (Comtes Rendus, 10th Sept., 1849) that in fifteen years the population of every age has increased twice as much in l'Aveyron as it has done in la Côte-d'Or, &c., &c. Other causes, however, can be adduced in explanation of the apparently great proportional increase of the population in l'Aveyron. First, the increase of a population occurs in the inverse ratio of its density; accordingly, l'Aveyron having a smaller population than la Côte-d'Or, with an equally great extent of surface, the number of its inhabitants should increase more rapidly: and, second, a population becomes more speedily increased with the advancement of trade and industry; and the extensive industrial establishments recently founded in l'Aveyron have led to the return in the census of 5920 workmen there, while only 3783 are returned for la Côte-d'Or.

In drawing these conclusions from only two departments, we are merely attacking our adversary on his own ground, but we cannot conclude without repudiating such a system for obtaining statistics to be employed in such general questions as the present. In all investigations of this nature, if anything like a scientific method is to be followed, *all* the departments should have been arranged, first according to the numbers vaccinated, and then according to the rate of mortality considered in connection with these.

ART. 6.—*The prevention of the spread of Cholera.*

By Dr. KÜCHENMEISTER.

(*Medical Times and Gazette*, March 15, 1855.)

Dr. Küchenmeister asks for co-operation in essaying how far the spread of cholera may be limited by the administration of small doses of preparations of iron in combination with salts of lime. Schmidt and others have shown that a large expenditure of chloride of sodium takes place through the stools and vomits in this disease, and that with this a retention of urea coexists. The latter is evidenced by the suppression of urine, and by the excretion of the urea, which should be discharged by the kidneys, in a crystalline form, by various parts of the body. Some observers have also succeeded in developing ammoniacal vapours from the blood in cholera. Thus, in cholera an expenditure of chloride of sodium goes hand in hand with the perversion of the excretion of urea. Unfortunately, the great difficulty attendant upon the examination of the excreta in general forbids the expectation of our easily ascertaining with exactitude the comparative conditions of the urea and sodium in the stools, urine, and sweat, in determinate individuals either in the prodromic stage or actual outbreak of cholera. In the absence of such exactitude, we must see

whether we cannot utilize by analogy other practical facts. According to the author's experience the means best suited for bringing the excretion of sodium and urea into harmonious operation is the administration of iron with salts of lime. The iron acts as a direct local styptic and tonic upon the mucous membrane of the intestinal canal. Also those who have much to do with cholera patients, or in whose family the disease prevails, should assist the influence of the iron by the moderate use of red wine or bitter beer. No local tonic exerts such a powerful tonic influence upon the mucous membrane, without irritating it, as does iron. In this respect, as well as in its astringent power, it is superior to the nitrate of silver. From long personal experience, by testing his urine, &c., the author has ascertained that iron also much aids the favorable influence which the carbonate and phosphate of lime exert in regulating the excretion of urea. He proposes in any district where cholera prevails, and especially in families in which diarrhoea has manifested itself, the employment of the following formula:

R. Ferri Lactici, $\frac{3}{ss}$ — $\frac{3}{j}$;
 Calc. Phosphat., $\frac{3}{j}$;
 Calc. Carbon., $\frac{3}{ij}$;
 Sacch. Lact., $\frac{3}{ss}$ — $\frac{3}{j}$;
 Pulv. Cinnam., $\frac{3}{j}$. M. Ft. pulv.

Of this a small teaspoonful should be taken at each meal time. A glass of good wine or beer, though not essential, may be allowed.

Dr. Küchenmeister begs for a trial of this simple means on a large scale in affected districts, especially as it does not prevent other means of a curative character being resorted to. Thus in persistent or relapsing diarrhoea, small doses of opium or ipecacuanha, may be given in the intervals of taking the powder. In cholera itself, he suggests also that advantage might be derived from the administration of real or artificial mineral waters, containing free carbonic acid, the carbonates and the salts of iron. Some practitioners have, during the after treatment, administered chloride of sodium in order to directly replace the loss of this substance, but without the simultaneous employment of regulators of the chloride in the body, among which are iron and salts of lime; but there is little utility in the practice.

(B) ACUTE DISEASES.

ART. 7.—*The pathology and treatment of Inflammation.* By Dr. J. HUGHES BENNETT, Professor of the Institute of Medicine in the University of Edinburgh.

(*Lancet*, March 8, 1856.)

The paper, of which we here offer an abstract, was read before the Edinburgh Royal Medical Society:—

Dr. Bennett, after some preliminary remarks, in which he alluded to the importance of the subject as a foundation for true pathology,

defined inflammation as an exudation of the normal liquor sanguinis. Referring to other definitions, he called their correctness in question. Mr. Paget had been unable to define inflammation. The view that inflammation might exist in non-vascular tissue he opposed by an examination of what occurs in so-called ulceration of cartilage, cornea, and epithelium; the distinction being, that in inflamed parts there would be exudation of liquor sanguinis, in which new cells would form, but in non-vascular tissues there would be simply increased growth, induced by endogenous multiplication of pre-existing cells. Then, describing the various phenomena of inflammation, he divided them into preliminary, essential, and resulting phenomena. The preliminary phenomena were contraction and enlargement of the smaller vessels, increase and diminution in the flow of blood, and congestion. The essential phenomenon was exudation of the liquor sanguinis, without which no inflammation could exist. The distinction between it and effusion of serum and extravasation he pointed out. The resulting phenomena were two: an increase of growth by new cell formation, and absence or diminution of cell growth. The theory of the preliminary phenomena consisted in spasm and paralysis of the extreme vessels, operating sometimes through the nervous system, directly or by reflex action; at other times the result of an injury, chemical or mechanical, applied to the part; in that of increased quantitative and diminished qualitative attraction exerted by the tissues on the blood; the increased spissitude of that fluid. The theory of the essential phenomenon consisted in the attraction of the liquor sanguinis through the vascular walls into the surrounding parenchyma or neighbouring cavities, where it coagulated to form a foreign body. The theory of the resulting phenomena was, attributing to the exuded matter, in one case, the properties of a living blastema, when it followed the vital laws of cell growth; in the other case, the properties of dead or dying matter, when rendered obedient to chemico-physical laws. Dr. Bennett then described the various ways in which the exuded matter, if it lived, was transformed; after which, he said, the disappearance of the exudation is brought about by the breaking down and disintegration of the exudation, which is rapid according to the amount of cell formation in it, by the passage of the disintegrated exudation in a fluid state into the blood, and its elimination from the economy by the excretory, integumentary, intestinal, and renal glands. The exuded matter might die suddenly or slowly; if suddenly, its elements combined with those of the atmosphere chemically, and caused inflammatory gangrene; if slowly, it gradually disintegrated, involved the surrounding tissue, and produced ulceration. Then, remarking upon the symptoms of inflammation, Dr. Bennett noticed their fallacious character. Heat, pain, redness, and swelling, might all be absent in positive cases of inflammation; hence the error in studying mere symptoms, and how necessary to blend with it a knowledge of physical signs. These facts led to the conclusion that all the healing phenomena of inflammation were reparative, and depended on cell growth. From them was formed the induction "that the treatment of inflammation to be successful, must be in harmony with those laws which govern the formation, development, and disinte-

gration of cells. The treatment of inflammation bore reference to three orders of phenomena. The symptoms of the preliminary phenomena when seen in medical practice could not be separated from those of fever. In surgical practice they might be predicted to follow injuries and operations, but there were no means of arresting them, and the treatment was expectant. The essential phenomenon was frequently observed taking place in surgical practice, but seldom recognised at the moment of its occurrence in medical. In the latter case it is often most important to arrest exudation, but no remedies could ever be proved to have done so; this was illustrated by the effects of general and local bleeding. In surgical practice, exudation was often necessary to cure, as granulation, adhesion, callus, &c.; to check it then would injure. When thought advisable, the application of cold was indicated. We could not cut short an inflammation once produced, but merely conduct it to a favorable termination. Dr. Bennett then considered the effects of various remedies—bleeding, mercury, antimony, diuretics, purgatives, sedatives, warmth, moisture, pressure, &c. He was altogether opposed to bleeding, and mercury he maintained to be useless, in causing rapid absorption of the exudation; antimony and neutral salts favoured secretion, and diuretics especially assisted the last stage of the process; the influence of sedatives was exerted on the nervous system; but cold checked, whilst warmth was one of the most powerful stimulants to cell growth, and favoured suppuration. Moisture favoured the formation of independent cells, whilst dryness favoured fibre cells; pressure was opposed to their expansion and growth, but when formed it favoured their disintegration and absorption. The action of counter-irritants was not understood—it was probably excito-motory; but wine and nourishment were important when the febrile excitement had disappeared, in order to favour the transformation of the exudation. Dr. Bennett then described his mode of treating inflammation of the lungs on the principles he had brought forward, and its success. This consisted of antimonials and the acetate of potash during the febrile stage; then of wine and nourishment; and lastly of diuretics, to favour excretion of the absorbed fibrin, in the form of urates. Excluding complicated cases of pneumonia—*i. e.*, cases connected with cerebral, cardiac, or renal disease, treated in the Infirmary, they were forty-two in number during the last five years. Of these, two died; one, a boy, who had been wandering without food day and night; the other was a man, who had long been subject to a cough, ague, bloody expectoration, &c.; they died within three days. Of the others, 32 were single and double; the average duration of single pneumonias, counting from the primary rigor, was $15\frac{1}{2}$ days; the duration of the double, $17\frac{1}{2}$ days; no case of double continued longer than 21 days, or shorter than 14 days. Of the single pneumonias—

1 case	.	.	.	.	lasted 29 days.
1 "	.	.	.	.	26 "
1 "	.	.	.	.	23 "
1 "	.	.	.	.	22 "
2 "	.	.	.	.	21 "

1 case	.	.	.	.	20 days.
2 "	.	.	.	.	18 "
1 "	.	.	.	.	17 "
1 "	.	.	.	.	16 "
1 "	.	.	.	.	15 "
10 "	.	.	.	.	14 "
1 "	.	.	.	.	13 "
2 "	.	.	.	.	12 "
3 "	.	.	.	.	10 "
2 "	.	.	.	.	7 "

From all the facts referred to, Dr. Bennett deduced "that the most successful treatment of inflammation is that which is in harmony with those laws which govern the formation, development, and disintegration of cells." In reference to Dr. Alison's theory, in which he stated that acute inflammations have changed their type since the days of Cullen and Gregory, and that formerly they bore bleeding well; and were treated successfully, but that now bleeding was injurious, Dr. Bennett admitted that fevers had changed their type, owing to alterations external to the individual, either from locality, drainage, or malaria, a tropical climate, &c.; but with regard to inflammation, as he described it, he said it was the same in all ages and places. According to Dr. Alison, the constitutions of men must have deteriorated and have undergone a weakening process, by which they could not so well bear bleeding. Dr. Bennett could not agree with this theory. Dr. Alison had endeavoured to point out the fallacy of statistics, but such fallacy told against him, as the fatal cases of pneumonia now were not those which possessed vigorous constitutions, and which formerly would have been bled, but they were those which were debilitated, and in which pneumonia occurred in a latent form. Hence he inferred that those cases which bore bleeding well in the days of Cullen and Gregory would do so now, and the expression "bearing bleeding well," was not a correct one, except in the sense that it does less injury to a strong man than a feeble one. Dr. Bennett said, in conclusion, that all important changes in practice must be gradual, and not influenced by the success of this or that empiric, but by the sober energies of those who investigate in the spirit of truth. Such seemed to him the only mode we possessed of improving our treatment of those mysterious processes hitherto involved in the word "inflammation."

ART. 8.—Blackness of the Tongue without Fever.
By M. BERTRAND, of St. Germain.

(*Gaz. Hebdom. de Med. et Chir.*, Dec. 7, 1855.)

M. Bertrand has met with four cases in which the human tongue presented the black discoloration which is met with naturally in the parrot and giraffe. The first case was that of a young girl, æt. 13, in whom extreme emaciation and increasing paraplegia gave evidence of serious mischief in the nervous centres. The second case was that of

an asthmatic old lady, æt. 70, who was well in every other respect. The third case was that of an old man who appeared to have nothing the matter with him. The fourth case was that of a child, æt. 11, who was convalescing from typhoid fever. These persons complained of nothing but an extreme dryness of the mouth.

The black discolouration, which was perfectly like a pigmentary stain, began in the centre of the tongue, remained stationary for ten days, and then faded from the circumference to the centre—from forty to sixty days being occupied in this process. The colour was not at all affected by any kind of washing.

Dr. Bertrand brought these cases before the Parisian Academy of Sciences, but they did not elicit any comment of value.

ART. 9.—*On the treatment of Fever.* By Dr. WILKS.

(*Guy's Hospital Reports*, vol. i, 1855.)

We take the following remarks from an admirable report upon all the cases of fever which occurred in Guy's Hospital during the year 1854—a report to which we referred in our last volume for evidence respecting the typhus and typhoid distinctions of fever. Having related the cases, 187 in number, Dr. Wilks proceeds to comment upon the treatment.

“I know little of cutting short the disease by any powerful remedy, but in all probability it may sometimes be accomplished. The opinion, however, that its course when once commenced may be curtailed by ordinary judicious remedies, is one which the above cases will entirely refute. Their perusal will, I think, prove that the best plan of treatment is to guide the patient through the disease, not to endeavour to combat it, but to prevent the subject of it succumbing to its influence at urgent periods. These remarks, I would state, have especial reference to the treatment by stimulants, because it will be seen that in some of the cases which I have brought forward, the most extreme plans have been adopted with respect to them, both as to the time of their administration as well as to their amount. The plan of curing fever by stimulants has of late been strongly advocated, and this is not only by the administration of large quantities of wine, but by the early exhibition of brandy and other spirits; and, moreover, the method has been stated to be eminently successful. I have fortunately seen it adopted, and can judge somewhat of its merits. If the reader will refer, first of all, to the cases of typhus, he will see that Nos. 61 and 73 were two very bad cases with mulberry rashes, and yet each did well, like many others, with simple salines; on the other hand, No. 71, which took no wine, died. With reference to those who took stimulants, let him look at No. 64. This man came in at the very commencement of the fever, on the fourth day wine was at once had recourse to, but the patient continued to sink in the usual course of the disease. Brandy then was freely administered, so that a large quantity of wine and spirit was hourly poured into the system, but the patient died on the fourteenth day. As no morbid appearances were found after death, this must be regarded as a simple case of a patient

succumbing to the fever poison in spite of stimulants. No. 65 will be seen to have recovered on the stimulant plan, wine being early given and increased daily until twenty ounces were administered. In spite of this, however, the patient got lower and lower until the critical day when the fever turned. No. 76 took all the stimulant that could be administered, but it produced no favorable result, as the case terminated fatally. We draw the same conclusion with regard to other remedies. No. 68 was ordered two grains of quinine three times a day, but the disease ran its usual course. In No. 69 it might appear that the same remedy did good, as convalescence occurred in four days; but then it will be seen that the patient was admitted on the tenth day of the fever, and recovery only occurred at the usual time. No. 90 was that of a man with no eruption, but desperately ill. He was ordered three grains of quinine every four hours, on the fourth day of the fever, and it was continued throughout. The remedy seemed to have the best effect in supporting the power of the patient, but had no influence in curtailing the course of the disease.

"If the reader will now refer to the typhoid case, he will see the same conclusions borne out. In No. 137, ten grains of quinine were given every four hours. This was taken for four days, and, producing no good effect, was discontinued. In reference to the administration of wine, in typhoid cases, it will be seen that deaths occurred in Nos. 108 and 114, where no stimulant was given; and, on the other hand, severe cases, as No. 117, were cured without any. Also some patients died where abundance of stimulants was given, as 131 and 161. The most important cases, in reference to this subject, are those which took a large quantity of stimulus early, but in whom the disease ran its usual course. No. 140 was that of a patient, ill five days with typhoid fever. The case was not more severe than many others that did well without any stimulant, but the plan was wished to be tried. Ten ounces of wine were given, and, in two days' time, increased to fourteen ounces daily. The man continued to get lower, and in six days' time, or the eleventh of the fever, he was taking eighteen ounces daily. He still sank, and after four days twenty-two ounces of wine were administered. This amount he took ten days longer without any improvement in the symptoms, when at the expiration of this period he very slowly began to improve. The change then, though marked, was not so decided as in most instances. In case No. 142 the same plan was adopted. On the eighth day twelve ounces of wine were administered, and increased the next day to fourteen, and in two more days to twenty. The patient, however, rapidly sank; diarrhoea continuing until death. The inference then to be drawn from the above cases is clear, that fever, both typhus and typhoid, will run its course in spite of remedies; that patients die with stimulants and without them, as well as recover on both plans. The fact is manifest that these remedies can in some cases be dispensed with, and that in others, although freely given, do not save the patient's life. With regard to their judicious use little can be said, for unless the reader had personally watched the particular cases under review he could not judge of their efficacy. From my own observation, however, I believe that the lives of a large number of cases have been saved by their

timely administration. So far, therefore, am I from depreciating the use of stimulants in fever, that I believe the great success in its treatment of late years has been by their adoption ; but at the same time I do strongly oppose the opinion that wine or brandy can be looked upon in the light of specific remedies or as antidotes to the disease. The cause which has given rise to this notion is no doubt to be found in the fact of the success which of late years has followed not only the abstinence from bleeding and other depletory means, but the administration of stimulants and support, and thus an opposite doctrine has been advanced, that we are not only to feed and nourish our fevers, but in all cases, even mild ones, to make use of stimulant remedies. Even supposing that this large amount of wine and spirits was not directly injurious, though I believe in many cases it is, a great evil dependent on the plan is, that the remedy is not given in proportion to the failing powers of the patient ; and that when the time occurs that he wants all our attention, and requires every possible nourishment, the means for meeting them have been already exhausted ; and another evil is, if the amount of stimulant be daily increased, it attains at last such a quantity that the patient is nauseated, and refuses altogether or very reluctantly takes it. At this critical time, when an energetic or powerful remedy is required, the increase of a remedy, already largely given, has but slight effect compared with one which is new ; for then it is, when the powers of the patient are beginning to flag, that a judicious and timely use of a stimulant is seen to be followed by the best effect. To know when to give stimulus, and the amount, constitute the most important, and I believe the most difficult, feature in the treatment of fever. There are cases, no doubt, occasionally met with, and may be frequent in particular epidemics, where stimulants are early required, but in ordinary cases of typhus and typhoid fever I believe the most judicious plan has been to give simple salines at first, and towards the close, or the critical time, a moderate amount of wine, which may be increased if requisite. I believe a difference of opinion as to the administration of these remedies has been owing, in great measure, to a want of observation as to the age of the fever at the time of their use, and this strengthens the former remark upon the importance of studying the natural history of the disease. This opinion respecting the treatment of fever is fortified by my experience of dispensary practice ; for having had many cases of typhus and typhoid under my care, and having met with but few fatal cases in the space of three years, I have been strongly impressed with the small amount of stimulants under which patients recover. Over and over again have I been surprised at the favorable termination of many bad cases of typhus, where little or no stimulant was made use of. Patients in whom I should have ordered a large quantity of wine had I had the opportunity, nevertheless recovered on the very small pittance they were able themselves to procure. In concluding this subject, let me again repeat that I am an advocate of the plan of nourishing cases of fever, and, if necessary, of stimulating them ; but am opposed to the idea, as the reported cases negative it, that wine or spirit is antidotal to fever.”

ART. 10.—*The treatment of Fever by "Cinchonism."*
By Dr. PEACOCK, Assistant-Physician to St. Thomas's Hospital.

(*Medical Times and Gazette*, Jan. 5 and Jan. 19, 1856.)

In these papers, after relating the history of this mode of treatment, and criticising the views of Dr. Dundas, Dr. Peacock gives seven cases in which he treated fever by "cinchonism." The general result of the treatment are stated as follows:

"1. In one of the cases of typhus, the quinine was certainly not productive of any benefit, and probably added to the torpor and depression of strength. In the other case of typhus it produced the most marked depression, and the patient was only saved by its discontinuance and the liberal exhibition of stimulants. In both cases, though the patients recovered, the disease seemed to follow its natural course, and to be in no degree curtailed in duration by the exhibition of the remedy.

"2. In one case of typhoid, the depression of power and torpor increased under the use of the quinine, but the notes are too imperfect to allow me to speak confidently as to its effects. The patient recovered after an illness of average duration.

"3. In two other cases of typhoid, the remedy appeared to exert neither beneficial nor injurious effects; the disease followed its usual course, and the patients recovered.

"4. In another case of typhoid, it certainly added to the torpor and depression. The remedy was only exhibited in small doses, and for a short period, and was entirely discontinued after six doses had been given, in the course of a day and a half, and stimulants and other means were then freely had recourse to; the prostration and torpor, however, increased, and the patient died comatose.

"5. In the fifth case of typhoid, in which the affection was combined with bilious complication, the quinine was decidedly beneficial, the patient steadily improving under its use. The attack was certainly of shorter duration and less severity than might have been expected from the urgency of the symptoms when the treatment was commenced; but, in this case, the amendment was gradual, and no sudden improvement in the symptoms at any time occurred.

"In all the cases the patients had stimulus and support as required, and other accessory treatment, such as astringents, aperients, anodynes, &c. While also the quinine was exhibited in the various cases in different doses and at various intervals, the different results bore no relation to any of these circumstances.

"The facts and observations which I have now related must only be regarded as a contribution towards the solution of the question of the usefulness of large and repeated doses of quinine in the treatment of the continued fevers of this country. So far, however, as they go, they are opposed to the views of Dr. Dundas, that quinine possesses the power of cutting short the attack; on the other hand, they indicate that the remedy is, in some cases, beneficial; but only as an auxiliary to other measures. It remains to decide, by more extended observations, in what forms of fever, and under what peculiar cir-

cumstances, local and individual, the remedy may be advantageously employed; and whether the quinine is more useful in moderate doses at distant intervals, or in the large and frequently repeated doses which have been recommended.

“There is, doubtless, a mean between the results arrived at by different observers which correctly represents the usefulness of quinine in fever; and I am disposed to believe that the very discrepant statements as to its effects, before quoted, may be reconciled by reference to the various characters of fevers in different localities and seasons, and under different circumstances. From an observation before narrated, and from somewhat extensive experience of the use of quinine in smaller and less frequently repeated doses, I feel satisfied that the remedy is useful in the bilious type of typhoid, and also in cases which display a remittent character, or have a tendency to relapse. During the course of last summer, the fever which prevailed was very frequently followed by relapses, and in them quinine was eminently beneficial. There is also a form of typhoid which is of frequent occurrence, in which the fever, though never very intense, is extremely prolonged, day after day elapsing without any material change in the symptoms. In affections of this description, also, quinine is productive of marked advantage, and much accelerates convalescence. My experience, however, of the use of quinine in such cases, is only of its employment in doses of three to five grains three or four times daily. I am not able to say whether the remedy is more useful in such doses, or when exhibited so as to produce the markedly sedative operation on the vascular and nervous systems, indicating the full physiological action of the drug, and to which the term cinchonism has been applied. Possibly the different types of fever may affect the dose which it is desirable to employ—the larger doses being preferable, from their sedative effects, in the more sthenic forms; and the smaller, in the adynamic fevers which require a tonic treatment.

ART. 11.—*The prophylactic and curative treatment of continued Fever.*
By Dr. SEMPLE.

(*Assoc. Med. Journ.*, March 8, 1856.)

The paper, of which the abstract is subjoined, was read before the Medical Society of London. The author commenced by remarking upon the great diversity observed in the nature of fevers, although the prominent and essential features—viz., cold, shivering, heat and sweating—were the same in all cases. With regard to the proximate cause of fever, little was known with certainty; and perhaps the theory offered by Sydenham, which represented it as an inordinate commotion of the mass of the blood, on the change of that fluid into a new condition, was pretty nearly the same as that which is proposed in the present day; for modern physicians were now generally coming to the conclusion that fever is a blood disease, and that the “commotion” described by Sydenham is due to the introduction of some morbid matter, the exact nature of which, however, is not yet deter-

mined. In the present day there is a revival of the "humoral pathology" to a great extent; the belief that cancer and tuberculosis are blood diseases, is fast gaining ground; and that cholera, scurvy, purpura, and albuminuria, are of that nature, can hardly be doubted; and in the whole series of inflammatory diseases, the blood is unquestionably affected in the first instance. This view is not merely theoretical, but is of the highest practical utility; for by admitting that numerous diseases are generated by the introduction of subtle poisons into the system, our legislators would be induced to examine the conditions of the atmosphere, of food, and of climate, likely to produce injurious effects upon the animal economy, and would thus materially prevent epidemic disease. With regard to the special treatment of fever, it could not be said that we possessed any one remedy which would positively cut short the disease; fever would run a certain course, and it is not possible to predict the exact length of time to which any given case would extend; but there was much reason to believe, although it could not be positively proved, that the duration of fevers was shortened by judicious treatment. The division of fevers by Cullen was shown to be inapplicable to the present forms of the disease; for the synocha of that author was rarely, if ever, met with in modern practice, although it no doubt existed even at the commencement of the present century. The division into typhus and typhoid fevers was far more in accordance with modern experience, and no one could study the subject of fever on a large scale without being impressed with the accuracy of the distinctions drawn between the two. The opposition to this view of the division of fevers probably arose from limited observation; and further experience would tend only to strengthen the diagnosis which has been proposed. Admitting that in certain exceptional cases, the two fevers presented characters in common, and might cause some difficulty in distinguishing them, the leading features were sufficiently striking; the typhus being characterised by the abundant measly rash, the great tendency to delirium, the rapid sinking, the absence of abdominal disease; the typhoid, on the other hand, being marked by the scattered, evanescent, rose-coloured spots on the abdomen or chest, the less tendency to head symptoms, the insidious onset, the presence of disease in Peyer's patches, the frequency of diarrhoea, a blown condition of the abdomen, and gurgling in the iliac fossa. In reviewing the remedies employed in the general treatment of fever, bloodletting, which was formerly so strongly recommended, was now contra-indicated, in consequence of the alteration which had taken place in the type of disease, although, so lately as 1830, bleeding was practised in fever with success. Putting the lancet out of the question, even leeches and the cupping-glasses must be used with great caution in modern practice; and it must be remembered that any mode of depletion was less easily borne by patients in an hospital than in private practice; because in the former, the lowering influence of the poisoned atmosphere affected the vital powers, and tended to produce collapse. Mercury, which was once extolled as a remedy in fever, possessed very little power over that disease, although in former years it may have been efficacious; and it was an error in modern practice to adhere to the routine cus-

tom of giving mercury in this and other diseases, when experience has shown that this mineral, indiscriminately employed, is more injurious than beneficial. Quinine, which is a very valuable remedy in intermittents and remittents, could not yet be said to be equally efficacious in continued fevers—at least, not in cutting short that disease; and the treatment, by large and frequent doses of this alkaloid, had not been found so successful in other hands as in those of Dr. Dundas, who strongly recommended its employment in this manner. Dr. Semple did not consider this question as finally settled; but he placed great reliance upon the careful observations of Dr. Barclay and Dr. Peacock upon the subject. Purgatives were also injurious when carried to any length in the treatment of fever; for they always tended to produce depression, even if, as by irritating the inflamed bowel in typhoid fever, they were not positively mischievous. The mildest aperients should therefore be employed, and amongst the best of these were small doses of castor oil. Typhus and typhoid fevers, as they were different in their nature, required different methods of treatment. In the first, the tendency to depression must be combated by wine, brandy, carbonate of ammonia, and other cordials and stimulants; and to relieve the head symptoms the head should be shaved, and a blister applied to the nape of the neck: in the second, or typhoid fever, the necessity for stimulants at first is not so obvious; but the inflamed and irritated bowel should be an especial object of care, and constipation and diarrhea, which may alternately prevail, must be met by appropriate treatment; the former by mild mercurials and alteratives; the latter by astringents, opium, and acetate of lead. The prophylactic treatment of fever was even more important than the curative, for when a fever was once established, its issue was doubtful, and its treatment difficult. Typhus fever was certainly the most contagious, while typhoid arose from local or endemic causes. The establishment of fever hospitals, he (Dr. Semple) regarded rather as a necessary evil than as a positive good; they certainly diminished the danger of this disease in the localities from which the patients were drawn, but they spread it in the hospital itself; and probably the best hygienic treatment of fever was to isolate the patients, if that could be accomplished, by placing them in situations which were airy, clean, well ventilated, and remote from one another.

ART. 12.—*The treatment of Fever by Acetate of Zinc.* By Dr. HEER.

(*Medizinische Zeitung*, No. 42, 1855.)

The cases treated in this manner (the numbers and particulars are not given) occurred in the second quarter of last year, and all presented either petechiæ, or the typhoid rash. Head symptoms predominated, but chest and abdominal symptoms were both frequent and urgent. Restless delirium, requiring the use of the strait-jacket, was very common, and often fatal, death being preceded by extremely rapid sinking of the physical and vital powers.

Dr. Heer did not trust exclusively to the acetate of zinc. On the contrary, he administered stimulants and antispasmodics wherever

they were required, which was in almost every case. He speaks most undoubtfully, however, of the beneficial action of the sulphate of zinc, and says the great nervous agitation was frequently calmed by the very first dose. His mode of administering the remedy was to give, every two hours, a table-spoonful of a solution of one demigramme (nearly eight grains) in 250 grammes of water.

ART. 13.—*Treatment of Typhoid Fever by Tar Water.*

By Dr. CHAPELLE, of Angoulême.

(*Charlestown Med. Journal and Review*, March, 1836.)

Having observed the favorable effect of tar in a certain case of typhoid fever, Dr. Chapelle was induced to pay particular attention to this remedy, in a series of cases occurring during the typhoid epidemic of 1854, 1855. His conclusion is, that liquid tar, if not an absolute specific, is yet incontestably the most efficacious agent yet discovered for the treatment of the above-mentioned disease. The tar should be administered internally as a drink, and in the form of an injection.

The drink is prepared in the following manner:—About two ounces of liquid tar are put into a vessel, containing nearly a quart of hot water; after it has stood a few hours, the patient commences to drink it, filling up with ordinary water after each draught, so that the same dose of tar will last during the whole treatment. The injection is prepared by rubbing up the yellow of one or two eggs with a table-spoonful of liquid tar, and diluting with a little more than a pint of warm water; this serves for two injections.

The patient should drink as much of the draught as he can; as to the injection, that should be insisted on in proportion as the drink disgusts, for the intestines should be always kept supplied with a certain quantity. Sometimes six, eight, and even ten enemata, should be administered in twenty-four hours. Should the patient be taken with diarrhoea, these injections check it promptly.

This treatment, if continued for two or three days, generally triumphs over the typhoid state; typhoid fever of ordinary intensity, called usually mucous fever, needs double that time; but typhoid fever, properly so called, of whatever form, is vanquished in its essential phenomena in eight to ten days. Each day the skin loses its dryness and heat, the tongue becomes clearer, the abdomen presents less tension and susceptibility, the sleep is calmer, the faecal matter acquires a more normal odour, and the digestive functions recover strength. When there exists only a simple typhoid state, the tar draught alone is commonly sufficient; but when the general perturbation augments, the febrile reaction increases, and the functional disorder is excessive, a much stronger dose of the tar is required, and the injections are then indispensable. In all cases where the breast or the head has been affected with violent perturbation, the disappearance of the ordinary typhoid phenomena does not immediately produce a cessation of these complications. These functional disorders either disappear gradually of themselves, or need the application of treatment appropriate to the morbid state.

ART. 14.—*Case of Smallpox quickly recurring.*
 By Mr. GASCOYEN, House Surgeon in St. Mary's Hospital.

(*Assoc. Med. Journal*, Feb. 23, 1856.)

This case occurred in St. Mary's Hospital, in a patient under the care of Dr. Alderson.

CASE.—J. W., æt. 23, labourer, was admitted into St. Mary's Hospital, December 28th, 1855, under the care of Dr. Alderson. Five months ago he was laid up with smallpox: from this he had recovered about a month, but for the last week he had suffered severely with pains in the shoulders and limbs, the joints having been much swollen. For this he was admitted. He now complained of pain in the shoulders and knees; the latter were slightly swollen, but he could walk tolerably; his skin was cool and perspiring, everywhere covered with cicatrices, exhibiting loss of substance, exactly similar to those left by variola. He had occasional chills and heats, with slight cough. Tongue clean. Pulse 96. Urine natural. He was placed upon full diet, with bark and colchicum, under which treatment he steadily improved till January 17th, when his former symptoms returned, with violent headache, a furred tongue, and a rapid, weak pulse. Salines were now given.

The next day he had nausea, rigors, and severe aching in his back and limbs.

January 9th.—The above symptoms continued unabated. His eyes were much congested, and his face thickly covered with an ill-defined eruption; over the limbs and body the skin around the old cicatrices was red and inflamed, forming bright red patches, with very distinct margins, giving a peculiar appearance; elsewhere it was of the natural colour.

20th.—Over the forehead the eruption is more tuberculated, and feels like shot beneath the skin; the eyelids are much swollen; he has a sore throat, and is troubled with a short dry cough. He was very restless and delirious through the night, but now is quiet, and answers rationally.

22d.—The eruption over the face is becoming pustular, and, in places, confluent; the eyelids are completely closed. He takes scarcely any nourishment.

23d and 24th.—He is not delirious now, but cannot sleep, and continues restless. Tongue brown, dry, and hard; throat very sore. He is ordered, as a gargle, and to drink, an ounce of port wine, with a drachm of yeast in half a pint of water, which is very grateful to him. The pustules over the face have all run together, incrusting it in one large scab. Over the rest of the body the skin is so thickly covered with pustules that it is impossible to place the tip of the finger on any part without touching some.

25th and 26th.—The pustules have become confluent over the scrotum, and down the inside of the thighs; and there are several large patches on various parts of the body. The eyelids are now enclosed, and there is a considerable discharge from the nose and mouth. The bowels not having acted for two days, he was ordered a small dose of castor oil.

27th.—The patient is very prostrated, and speaks with difficulty, in a husky low whisper, but takes more food, such as port wine, beef tea, or milk. He has considerable dyspnoea, and loud moist crepitations can be heard all over the front of the chest. Pulse so small it cannot be counted.

10 p.m.—He is quite conscious, but cannot articulate; he has mucous rattle in the throat. Pulse imperceptible. He swallows wine in small quantities.

28th, 3 a.m.—Died.

The autopsy presented nothing of the slightest interest.

ART. 15.—*Coma in Scarlatina.* By Dr. HENRY KENNEDY.

(Dublin Quarterly Journal of Medicine, Aug. 1855.)

On a recent occasion Dr. Henry Kennedy directed the attention of the College of Physicians in Ireland to the coma which was known to be a frequent attendant on scarlatina. The period of its occurrence was one of the points he notices, and for this purpose he speaks of it as being observed under two very different aspects, which it was well to keep in mind. In the first class of cases, the coma existed at the commencement of the disease; and here it might exist *per se*, and continue even without intermission till death. Of this he had known instances. In other cases, again, while the coma was a very early symptom, it was attended with convulsions, or, rather, the two occurred alternately. Of this, also, he had seen examples. But the most frequent occurrence was the presence of coma at the onset of the attack, and its gradual subsidence as the disease progressed. This, then, was the first way in which the coma was to be observed; that is, as ushering in the attack. In the second, however, matters were very different, for here the disease begins with the ordinary febrile symptoms, and it is only as it progresses that coma shows itself, and usually goes on increasing till the period of death. He thought it well to draw these distinctions as to the period at which coma comes on; for though ever a serious symptom, and occurring only in the worst forms of the disease, still there was this difference between the two classes of cases—that the first was a more favorable case to have to treat than the last. He stated that he had seen several instances where the disease had begun with coma, from which the child had recovered in a few hours. One such he had lately seen with his friend Dr. Denham, and they were not uncommon. But where the coma appeared at a later stage, and then only for the first time, matters went on very differently, and a case of recovery was a very exceptional one indeed. The remark applied not only to cases of scarlatina, but to all acute fevers, and more particularly to the ordinary fever of Dublin; in which latter it was well known that the approach of coma, and still more its actual occurrence and tendency to increase, were amongst the very worst signs which could appear. From profound coma, under the circumstances detailed, he had seen no recovery.

What could be done for the class of cases he had been speaking of? Unfortunately, but too little. Still, there was one remedy from which he had seen benefit when the coma was an early symptom. Though well known, it possibly might be used more generally than it is. He spoke of the cold effusion applied to the head, and under the inspection of the medical attendant. This, used with the ordinary care, and modified, as it could be, by taking the chill off the water, he had found very useful. Even when the coma appeared late, he had seen benefit from its use, but not at all equal to what occurred in the other cases. Many of the cases marked by early coma, on recovering from this state, exhibited symptoms of great depression, and which at once called for some modification of the antiphlogistic plan. Besides wine, he had seen marked benefit arise from the use of barm—a remedy

which, though formerly much used, had latterly been nearly forgotten. In the Cork Street Hospital it was, however, still employed by Dr. George Kennedy, and often with benefit.

ART. 16.—*On the relations between Scarlatina, Rheumatism, Carditis, and Albuminuria.* By Dr. WILLSHIRE, Assistant-Physician to the Charing Cross Hospital.

(*Lancet*, Dec. 1855.)

In a clinical lecture recently delivered, Dr. Willshire makes the following case the text for some remarks respecting the relation which exists between scarlatina, rheumatism, carditis, and albuminuria.

CASE.—Clara M—, æt. 10, admitted the 29th of October. On the 22d, the rash, sore-throat, and *malaise* of scarlet fever made their appearance. On the 23d, she was brought as an out-patient to the hospital. For six days nothing more was heard of her, but on the 29th her mother returned to say her daughter was very unwell, and that the day previously her limbs and joints had become very painful and seemed swollen. The child was admitted into the wards the same afternoon. On admission, the right knee and ankle-joint were swollen, slightly reddened by a blush, and painful; the tongue was coated, the bowels rather costive, and she looked a little puffy about the face; urine said to be passed in sufficient quantity. She was ordered the nitrate of potash mixture and compound powder of jalap. The urine to be preserved for examination.

On the 30th, she complained very much of pain; the limbs were too painful to be moved, and she lay on her right side, with the knees up towards the chin; the respiration was accelerated, the heart's action increased in frequency, and a slight bruit was heard, diffused, as it appeared, over the precordial region. The bowels had been slightly operated upon. No urine free from admixture could be obtained. Four leeches were ordered to be applied over the heart, and the bleeding to be somewhat encouraged, the compound jalap powder to be repeated, and the wine of colchicum to be added to the nitrate of potash mixture. Alkaline fomentations to the affected joints.

On the 31st, the patient seemed much better; the heart's action lessened, but the bruit was plainly to be heard. The countenance was more cheerful, and the position in bed could be changed. To continue the medicines as before.

November 1st.—Still improving; the pain of joints nearly disappeared; and cuticle freely desquamating. Could lie on right or left side indifferently. Complains of soreness of mouth. The tongue was red, with aphthæ upon it, and stomatitis was present; there was also a slight herpetic eruption about the lips. She was ordered the chlorate of potash mixture, and the application of the mucilage of borate of soda to the mouth. Up to the 5th of November she went on improving, the skin freely desquamating, and the urine was found to be non-albuminous.

On the 5th, one of the wrist and ankle-joints again became painful and swollen, the heart's action increased, and the countenance somewhat anxious. At the base of the heart a sort of reduplication of the first sound was plainly to be heard, and over the apex a distinct systolic sawing souffle. Ordered to return to the nitrate of potash and colchicum mixture; to have a blister on the right side of the chest.

On the 8th she felt again better, the bruit over the apex continuing.

Ordered to have two grains of mercury with chalk, and three of soda, every four hours. She went on generally improving; complained of no pain over the heart; no difficulty of breathing, or of pain of the limbs; the countenance was full of vivacity, but a loud sawing souffle beneath the nipple, and a slight roughness, with the first sound at the base continued.

9th.—Improves; apex sound as before, that at base less evident. Repeat the mixture.

10th.—Much better, but the pulse rather small; apex bruit as before, roughness at base less evident, but a reduplication as before heard of the first sound. To continue the mercury, but to take also cod-liver oil.

11th.—Improves; up and dressed; skin yet desquamating. To have a warm bath; and orders were given to the sister to have her skin well scrubbed.

12th.—Urine examined; not albuminous. To leave off the mercury, and to take cod-liver oil and quinine.

13th.—Was crying yesterday because not allowed to leave the hospital, being, she said, "quite well." Bruit at apex continues; skin still desquamates. To repeat the warm bath.

After relating this case, and after referring to the opinions of former observers, Dr. Willshire proceeds to make certain remarks, from which we take the following—

"That there is some obscurity about the exact nature of a disease occasionally attacking not only children, but adults, and marked by arthritic pain and tension often of a severe character, accompanied by a scarlet rash, is plain from the accounts given by some American and East and West Indian practitioners. For instance, in 1824, 1825, and 1847, outbreaks of a disease like the one I have just mentioned occurred in the East Indies. In the summer of 1828, the malady appeared epidemically in some of the southern cities of the American Union, after having previously prevailed in some of the islands of the Gulf of Mexico. In Charleston it spread with great rapidity, ultimately attacking almost the entire population. In this latter city the last occurrence of it that I have found recorded was in 1850, and is alluded to by Dr. Dickson, of South Carolina. In Calcutta, again, during the hot and rainy season of 1853, a variety of the same affection prevailed, and has been well discussed by Dr. Goodeve in the first volume of the 'Indian Annals of Medical Science' for that year, and to which I must refer you. Now, this disease has been called *scarlatina rheumatica* by Cocke and Copland, *exanthesis arthrosia* by Nicholson, and the strange cognomen of *dengue* has been popularly bestowed upon it. I have said that the first account of this disease goes not further back than 1824; but it is proper I should mention that Dr. Dickson, of Charleston, writes as follows: 'I recognise Rush's "breakbone fever" of 1780 in Philadelphia as the first notice of a malady such as I have called dengue;' and Dr. Waring, of Savannah, alludes also to dengue under the title of 'eruptive breakbone.'

"I cannot go into the details of this peculiar disorder; indeed, I have only alluded to it to show you that there occurs a fever, accompanied by arthritic pains and a red exanthem, whose true relations to scarlet fever yet require clearing up. However, I may just remark, that Dr. Dickson regards dengue as a distinct contagious disease, giving immunity from second attacks, and that it is *not* scarlatina; whilst Dr. Goodeve states that most of the symptoms characteristic of

the latter affection found expression in some of the cases occurring in Calcutta. He says, 'the fever eruption, reddened mucous membrane and tonsils, desquamation of cuticle, swelling of hands and feet, state of the tongue, albuminous urine, are all such as go to make up scarlatina; but it would be premature to assert that the cause is identical with that of scarlatina. I should say that it would require a longer series of observations of several epidemics, with careful examination of all the attendant circumstances, before we could pronounce the diseases to be identical.' Again: Dr. Copland affirms, that the disease called dengue 'was not a form of scarlatina is shown by the severity of the rheumatic or neuralgic symptoms,' &c.; and 'that it was not a rheumatic fever was shown by the undoubted propagation of it by infection,' &c. I see that in some later observations by Dr. Mackinnon, in the third number of the 'Indian Annals,' he doubts whether any of the epidemics of India described as attended by red efflorescence of the skin can be identified with any of the varieties of the scarlatina of Europe, denies the disease we have referred to to be contagious, and for which, he says, the name of 'the red fever' is as good a name as any other.

"On reviewing the different accounts given by Indian and American writers of this puzzling affection, the disease appears in certain places, and epidemics, to have had more the characters of rheumatism; whilst in others it has had more those of scarlatina. Our own case of M— may be said to illustrate, so far as my own experience extends in respect to the relations between scarlatina and rheumatism, one form of the arthritic complication—namely, that occurring early in the course of the exanthematous disease. When it so occurs, the specific inflammation about the joints terminates, like primary or idiopathic rheumatism, in resolution or delitescence. But it may take place at a later period of the disease, when all has been thought to be over. It occurs after desquamation has made some progress, and then may terminate in the suppurative crisis. Now, this is peculiar about the rheumatic inflammation generally of young children; unlike in adults or older children, it may lead to purulent effusions into joints, and also about them. I have known this to occur in several instances, and it is more liable, I believe, to ensue in the secondary rheumatism of scarlatina. This is a fact well known to others. If I recollect aright, Dr. Kennedy, of Dublin, has published something upon it, and Troussseau, I know, states that scarlatinal rheumatism is often more dangerous when localised to a single joint, than when attacking several articulations at one time, as it is then more inclined to terminate in suppuration, and even eventually to result in caries of the articulating surfaces. This circumstance, however, of the arthritic inflammations of infants and young children, not unfrequently terminating in the formation of matter, has led some pathologists to deny the true rheumatic nature of the disease in question. I must confess, too, it does seem to me not improbable that the results of pyohaemia, or purulent infection, of phlebitis, umbilical or otherwise, may, along with other forms of abnormal action, have been occasionally placed to the credit of ordinary rheumatic inflammation. But Mr. Henry Lee, who has paid great attention to the subject of purulent infection, states

that he has seen, as the result of the absorption of sero-purulent fluid from an ill-conditioned abscess, very severe rheumatism, affecting, in some instances, the pericardium and dura mater. In these cases, there was occasionally more fluid secreted than in ordinary rheumatism, but in milder examples there was no such distinctive mark; they are said to have been 'in every sign and symptom apparently identical.'

"I have undoubtedly seen cases in children, which I should not have known from rheumatism, terminate in the suppurative crisis. If it be said, then such cases therefore could not have been rheumatism, the argument is of course settled; but it appears to me only so by a *petitio principii*. In adults, again, rheumatism does occasionally, however rarely, terminate in the formation of matter. In M—'s case some mischief has ensued certainly to the mitral, if not also to the aortic, valves. It may be but slight, still there it is, and may lay the foundation for changes in after years connected with the walls of the heart's chambers. The abnormal sound (which some of you have listened to) at the apex is very loud, but this you know is not proof of the amount of structural mischief at the mitral, for there may be much noise and slight change, and but little noise and great alterations. The former, I hope, is the case here; but from the pulse being so small at the wrists, my hope is not to be too much trusted to. A German pathologist affirms it to be a general thing in scarlatina for the first sound of the heart to be aspirated or blowing, and which is a result of the altered state of the blood, and not of the valves, and is a proof that scarlatina and all its complications arise from one common blood disorder. I presume he must mean to refer only to the sound at the base, and not at the apex (where our worst one is), of the cardiac region. Sounds at the base, you know, may be of haemic origin, but at the apex they are, I believe, always of structural derivation.

"The liability of the heart to become affected during scarlatina has been known for some time. Roux in 1819 and Krukenbergius in 1820 are said by Rilliet and Barthez to have referred to the occurrence of pericarditis in connection with scarlatina and measles. Troussseau, says Bouillaud, pointed it out; but certain it is Mr. O'Ferrall, in 1835, detailed to Dr. Graves, of Dublin, how he was obliged to have recourse to leeching, calomel, and James's powder, to overcome acute pericarditis in connection with scarlatina. Several later writers, as Burrows, Willis, Joy, &c., have noticed this complication; and not long ago M. Troussseau stated it as his belief that 'many cases of organic disease of the heart, which only become evident at an after period, have had their origin in scarlet fever.' But, so far as I know, we are most indebted to Dr. Scott Alison for prominently bringing this matter before our notice, though it has been said that the frequency of the complication has been somewhat exaggerated. You will find Dr. Alison's original paper in the 'Medical Gazette' for 1845. The present case of M— makes the third one of heart complication during scarlatina that I have seen, and you perceive here it has occurred in connection with an arthritic affection. One might, *à priori*, suppose the sequence of the phenomena would always thus present themselves, but it seems that it is not so, as the involvement of the cardiac organ

is alluded to by writers, as well as seen by myself, without the arthritic affection having preceded or accompanied it. I find it remarked that in the Stuttgart collection of papers on 'Children's Diseases' the occurrence of purulent collections in the pericardium during scarlet fever is mentioned by Von Ammon, whilst effusion of pus beneath the periosteum and in the substance of muscles has been recorded by others. It is, therefore, possible that the rheumatism in M.—'s case had, in one sense, nothing in itself to do with the cardiac affection, but that both were but effects of one same and common cause, and that this cause was the same condition of the blood which gave rise to every other manifestation of the scarlet fever."

ART. 17.—*On some points in Epidemic Cholera.* By Dr. AYRES.

(*Medical Times and Gazette*, March 22, 1855.)

In a paper recently read before the Medical Society of London, Dr. Ayres, after stating that he had no theory to support, went on to comment upon some of the symptoms of this disease, as observed by him during the epidemics of 1848-9 and 1853-4. In relation to premonitory diarrhoea, he observed that the praiseworthy investigations of Dr. M'Laughlan, had led to his denial that collapse ever occurred without premonitory diarrhoea of some hours' or days' duration. After advertiring to certain recorded cases in which collapse occurred without premonitory diarrhoea, and the intestines were found after death gorged with the rice-water evacuations, Dr. Ayres observed that in a practical point of view diarrhoea could not be correctly called premonitory unless of sufficient duration to allow time for the action of remedies; and he detailed several cases in which collapse supervened so suddenly as not to give sufficient time for the exhibition of remedial agents. With reference to the evacuations, the author stated that neither chemical nor microscopical examination had thrown the smallest light on the cause of the disease. He explained the formation of the larger cholera bodies described by Drs. Swan and Budd, of Bristol, as one of the phases in the digestion of fats, and exhibited drawings of the cholera bodies of the rice-water evacuations, and the artificial cholera bodies, produced during the digestion of fat in a healthy animal. He also enumerated the microscopic objects discovered in specimens of rice-water evacuations from fifteen cases of cholera. Vogel and Heller had observed, that the addition of nitric acid to the distillate of rice-water evacuations produced a red tint in the liquids, and Simon had noticed the production of the same colour by addition of nitric acid to the liquid motions in typhus. The author had, some years before, obtained the same roseate tint by the addition of this acid to the distillate of night soil. He repeated the experiment of Vogel and Heller, on cholera evacuations, with the same result, but being struck with the exact resemblance of the reaction of the distillates of cholera evacuations and night soil, he was led to ascertain whether fresh healthy fæces would yield the same results; and he found that such was the case in all minor degrees, thus proving that this peculiar reaction is not a pathological peculiarity of cholera, but a result of the putrefaction of

fæcal matters. In reference to cramps, the author remarked, as a result of a somewhat extended experience, that this symptom was invariably absent in young children, and that the cramps were rarely severe before the age of puberty. He described certain peculiarities in the symptoms of collapse in children, as contrasted with those occurring in the same stage of the disease in adults. In relation to the cause and propagation of the disease, Dr. Ayres entered somewhat at large on the chief hypothesis on this part of the subject. He remarked somewhat severely on the conduct of the late Board of Health, for confounding the predisposing with the efficient cause of the disease, and for attributing to local causes, always present, the production of a disease which has only lately appeared among us, and at long intervals. He then proceeded to examine the hypothesis of Dr. Snow and Mr. Grove on the cause and propagation of the disease, raising serious objections to their opinions. Finally, in speaking of the treatment of the disease, the author stated that, among a very large number of cases of diarrhoea which came under his care during the epidemics of 1848-9 and 1853-4, he had only seen two or three cases in which the diarrhoea was uncontrollable by ordinary treatment, and then ran on into collapse. Considerable difference in relation to treatment was seen in the two epidemics; for while about two thirds of the collapse cases recovered in 1848-9 under a treatment consisting of small doses of calomel frequently repeated, with chalk and catechu mixture rendered stimulating by the addition of tincture of capsicum; in 1854 nearly all the collapsed patients died under that, and other modes of treatment.

ART. 18.—*Meteorological Changes in relation to Cholera.*

By Mr. GLAISHER, F.R.S.

(*Report on the Meteorology of London, and its Relation to the Epidemic Cholera. Blue Book.*

These are the conclusions of the report which was presented by Mr. Glaisher to the President of the Board of Health—a report which does full credit to the known ability of the writer.

“In the year 1854 the pressure of the atmosphere was great; the temperature generally high; sky overcast; direction of the wind north-east and south-west, and the velocity of the air was less by one half than its average for some time before; and at the time of the greatest mortality from cholera, the barometer reading was remarkably high, and the temperature above its average; a thick atmosphere, though at times clear, everywhere prevailed; weak positive electricity; no rain. In low places a dense mist and stagnant air, with a temperature in excess; temperature of the Thames water high; a high night London temperature; a small daily range; an absence of ozone, and no electricity.

“The three epidemics of 1832, 48, and 54 were attended with a particular state of atmosphere, characterised by a prevalent mist, thin in high places, dense in low. During the height of the epidemic, in all cases, the reading of the barometer was remarkably high, and the atmosphere thick. In 1849 and 1854, the temperature was above its

average, and a total absence of rain, and a stillness of air amounting almost to calm, accompanied the progress of the disease on each occasion. In places near the river, the night temperatures were high, with small diurnal range, a dense torpid mist, and air charged with the many impurities arising from the exhalations of the river and adjoining marshes, a deficiency of electricity, and, as shown in 1854, a total absence of ozone, most probably destroyed by the decomposition of the organic matter with which the air in these situations is strongly charged.

"In 1849 and 1854, the first decline of the disease was marked by a decrease in the readings of the barometer, and in the temperature of air and water; the air, which previously for a long time had continued calm, was succeeded by a strong south-west wind, which soon dissipated the former stagnant and poisonous atmosphere. In both periods at the end of September the temperature of the Thames fell below 60°, but in 1854 the barometer again increased, the air became again stagnant, and the decline of the disease was considerably checked. It continued, however, gradually to subside, although the months of November and December were nearly as misty as that of September. By the close of the year diarrhoea and cholera had subsided, but a high rate of mortality still continued.

"The coexistence of cholera with coincident meteorological phenomena is, to say the least of it, remarkable; so is the stagnant atmosphere prevalent during the time of cholera in each of the three periods, and which would seem to be a necessary condition to the activity of the disease.

"The inimical nature of the influence it exercises upon the public health, I regard as intimately connected with the state of the water and the marshes, which in the preceding pages are shown to be large evaporating surfaces for every description of poisonous exhalations. Impure water and impure air are inseparable, for the impurities of the former will be concentrated into the surrounding atmosphere, and there remain, unless rapidly dispersed under favorable atmospheric conditions.

"The agency of the river in fostering diseases is confirmed by the history of cholera just traced, and which we find to have been most fatal in low situations, and in London in those places on the south side of the Thames which afford an undisturbed lodgment for the reception of the air charged with the poisonous elements from evaporation and exhalation. The effect of a gentle wind is to float this atmosphere to enclosed spots, where its malignity becomes concentrated."

ART. 19.—*The chemical conditions of Cholera Atmospheres.*

By Dr. R. D. THOMPSON, F.R.S.

(*Lancet*, Jan. 19, 1856.)

There is much food for reflection in the following facts:

"The chemical conditions of cholera atmospheres is a question of intense interest in the subject of public health; but with the exception of the unpublished experiments of Dr. Prout, during the epidemic of

1832, comparatively little attention appears to have been bestowed on it. One of the most striking circumstances connected with the occurrence of the disease is, that no change very palpable to the senses prevails; and it has even been remarked, that the weather has usually been exceedingly agreeable. In London, at St. Thomas's Hospital, the neighbourhood of which afforded a large supply of cholera cases, the relative weight of the air, in August, 1854, a cholera month—and in August, 1855, when the metropolis was in an exceedingly healthy condition—is exhibited in the following table in grains per cubic foot :

1854.	Weight of cubic foot in grains.	1855.	Weight of cubic foot in grains.
Week ending		Week ending	
Aug. 5th	522.9	Aug. 4th	516.9
12th	526.7	11th	524.3
19th	525.	18th	525.9
26th	523.5	25th	519.2
Sept. 2d	525.2	Sept. 1st	523.0
9th	530.3	8th	531.6
Mean	525.6	Mean	523.5

“ The result, as deduced from this table, which has been calculated approximately from the barometric pressure, dry and wet bulb thermometers, is analogous to that obtained by Dr. Prout, in 1832, as I was informed by himself. Corresponding observations have been made by Mr. Glaisher, at Greenwich, and the same conclusions arrived at; from which it would appear that this superior weight of a given bulk of common air was not a local phenomenon, but was diffused to a considerable distance.

“ Another character distinguishing September, 1854, from the corresponding period of 1855, was the absence of any atmospheric action on ozone test-paper in the former season; while during 1855, the oxidizing influence of the air has never been absent at St. Thomas's Hospital. During September, 1854, however, when no ozone could be detected in London, its action was sometimes faint, and often very strongly marked, at Lewisham, near Greenwich. Throughout the same periods the air was exceedingly stagnant; and it has since been observed by Mr. Glaisher, and also at Vienna, that rapid atmospheric movement is pretty generally accompanied by an oxidizing condition of the air.

“ With reference to the chemical composition of the atmospheres of inhabited localities and malarious districts, experiments have usually been conducted on the constitution of the gases which enter into the composition of the air. But the results seem to have thrown little light on the possibility of the production from such causes of any disease characterised by a regular sequence of symptoms. So far as our knowledge warrants, gases can either act only as asphyxiating media by the exclusion of oxygen, or as slow or rapid poisons. The cause capable of inducing disease, formed on a peculiar type, analogy leads us to infer, must be in an organized condition, either in a solid form, or in a finely diffused, or vaporific state. The fact observed, that in malarious atmospheres sulphuric acid speedily becomes black, also

points to the propriety of examining the air in such situations, with the view of filtering from it solid or condensable matter. In the epidemic of 1849-50, I examined the exterior air of an infected district with this object in view to the extent of many cubic feet; but the result was comparatively negative, and led to the inference that the examination of large masses of air could alone hold out any prospect of a successful issue.

For this purpose, in 1854, air was passed through carefully prepared distilled water, contained in Wolfe's bottles, by means of a large aspirating apparatus, of the capacity of sixteen cubic feet, which was kept constantly in action during the day for several months. Occasionally freezing mixtures were applied to portions of the apparatus, and a tube filled with pumice moistened with sulphuric acid, placed near the aspirator, completed the series. A range of glass tubes conducted the air from a cholera ward into the aspirator. The ward was 32 feet long, 20 wide, and 9 high. The air was drawn from the centre of the ward, near the ceiling; and when the apartment was filled with cholera patients, the air, after traversing several layers of distilled water, speedily charred the sulphuric acid, and deposited a variety of solids in all the Wolfe's bottles, which could even be detected in some measure by the eye. The objects consisted of blue and red cotton fibres, from the dresses of the inmates, portions of hair, wool, fungi, sporules of fungi, abundance of vibriones, or lower forms of animal life, with particles of silica and dirt. In this and in all the experiments conducted on the air of closed apartments, the distilled water was rendered strongly acid, from the presence of sulphuric and sulphurous acids, derived from the products of gas and coal combustion. The distilled water used in these experiments was boiled for some time previous to being introduced into the apparatus, and was divided into two portions, one part being placed in a stoppered bottle, beside the Wolfe's bottles, through which the air was conducted, the sediment, if any, being afterwards examined and compared with that resulting from the experiment. When the ward was only partially filled, vegetable epiderm, vegetable cellular tissue, fragments of cotton, linen, vegetable hairs, sponge spiculæ, minute fungi, spiral vessels, sporules, spore cases, animal epithelium, oil-globules, and silicious particles were conspicuous, while vibriones were entirely absent, or at least mere traces could be discriminated. This is an interesting result, since, in the first case, only 98.6 cubic feet were examined, and of the partially empty ward 240 cubic feet passed through the apparatus. When the ward was empty, cotton fibres, wool, a trace of fungus, with carbonaceous and silicious particles, were alone observable, the amount of air examined being 304 cubic feet. The air external to the ward, and in the immediate neighbourhood, afforded, from 560 cubic feet, one cotton fibre, one of wool, a crystalline body, probably a sponge spicula, sporules, beautiful mycelia of fungi in various stages of development, and some carbonaceous matter. The distilled water, in this instance, likewise yielded a strongly acid reaction, produced by sulphur acids. The possible influence of sewer atmospheres predicted interesting results from an examination of such air; and accordingly, it was found that the predominating feature of this experiment was

animal life, in the form of swarms of vibriones, in various stages of advancement. The chemical reaction in this case, unlike that in the preceding experiments, was invariably alkaline, due to the evolution of ammonia from the nitrogenous matters contained in the sewage liquors. These experiments render it sufficiently obvious, that organic living bodies constantly surround us in close apartments, and particularly that animal matter, under certain circumstances, exists in the air. It is scarcely legitimate to infer, that the absence from the air of matter capable of communicating cholera has been proved by these experiments, since it is certain that nitrogenous materials, distinct from the germs of vibriones, must have been present, to supply food to these living beings. The researches show, that foreign animal matter, injurious to health, may speedily be concentrated in certain localities, which will undoubtedly assist, in conjunction with meteorological conditions, in the production and propagation of disease. Pathological investigation, carefully conducted by my colleague, Mr. Rainey, detected, in one case, an entozoon in the glottis, the only analogues of which have hitherto been found in the substance of the muscles of animals, a fact which would seem to indicate that the germ of this creature had been derived from the atmosphere, or at least directly from external sources. Careful pathological examination failed to detect in the mouth or air-passages sporules, germs, or living beings, in those patients who died of cholera."

ART. 20.—*On Yellow Fever.*

By Dr. BLAIR, Surgeon-General of British Guiana.

(*Report of the Recent Yellow Fever Epidemic of British Guiana.* Churchill, 1856.
Pamphlet, pp. 91.)

The following definition of yellow fever, and the account of the post-mortem appearances, are from a report upon which much care and labour has been expended—

"The efficient cause of yellow fever," writes Dr. Blair, "is an aerial poison, probably organic, which requires a certain temperature for its generation and existence, and affects special localities and persons. This poison attaches itself to the mucous surfaces of the human body. One of the primary effects of such contact, when the quantity is adequate, is to rouse the system into febrile reaction, and to excite through the stomach and intestines an effort to expel the noxious agent. There is reason to believe that this compulsory effort is sometimes successful unassisted, but is materially aided by the action of certain medicinal substances. In the event of the expulsive effort being unsuccessful, the effect of this poison is to act destructively on the epithelial structures of the body by inducing a specific irritation in the basement membrane, by which, and by allied consecutive lesions, the arterial and capillary tissues are impaired, the viscera become congested, the blood thereby contaminated by suppressed secretions, and fatal hemorrhages ensue."

With respect to the post-mortem appearances Dr. Blair writes as follows—

" The first general anatomical fact in reference to the disease under consideration, is the almost universal *bloodiness* of the tissues of the body in a patient who has died from yellow fever, having been previously healthy, and not dying from actual hemorrhage. *Hyperæmia* does not express correctly the idea of this condition, for the dissection of the body shows not only too much blood, but also blood in the wrong place. It flows out from the subcutaneous areolar tissue; the mesentery is loaded with it; the areolar tissue forming the attachments of the windpipe and gullet is bloody; so is the mediastinum and the fat around the kidneys. The intestines appear, externally, slate-coloured, or gangrenous-looking through the peritoneum, from congestions and extravasations in the mucous and submucous coat. The pleura costalis participates in the same sanguineous appearance as the connecting tissue of the throat, from the universal hyperæmia and extravasation beneath that membrane. If we look into the trachea, and bronchi, and œsophagus, stomach and intestines, and coverings of the brain, and lining of the bladder, we find a similar condition in some, and it may be in all these surfaces. If we wash away the mucous or blood which obscures the view, we may find the part highly sanguineo-vascular, the capillaries in a state of distension, without breach of continuity; if in the stomach, leashes of them may be seen torn and disorganized; or the part may show structureless unvascular ecchymosis, and dots or wavy lines, or patches of greater or less extent, or splashes, as if red ink had been projected from a pen. The membrane of the stomach shows the most varied hyperæmia; sometimes it is arborescent, as if the arterial twigs were chiefly affected by engorgement. Sometimes it occupies the rugæ and villi in wavy lines; in other cases it is in rude hexagonals, as if the capillaries surrounding the mucous follicles were alone affected. At other times, the predominating appearance is a universal rosiness, or deep claret or purple, as if the submucous tissue had been infiltrated with pigment; but generally, most of these varieties of hyperæmia are blended together. If we examine the parenchyma of the great viscera, a similar condition of *bloodiness* obtains. The kidneys are sometimes ecchymosed below the capsule, and a section of them is *always bloody*. The liver is very frequently in the same condition, and is sometimes enlarged from general engorgement, and softened and friable in spots, as if from broken-down structure. The lungs are often apoplectic, with the interlobular spaces broken and infiltrated, so as to lose all physical appearance of pulmonary tissue, and resemble huge clots of blood. These conditions are generally found in the most dependent parts, but frequently the upper and front part of the lungs and liver, and pelvis of the kidneys, are so affected. The appearance is therefore clearly not hypostatic, although gravitation must exercise some localising power. Sometimes one viscus may be engorged, and a neighbouring one anæmiated and dry. This relation sometimes exists between the kidneys and liver, as in the cases of Gibney and Morgan (Seaman's Hospital, 21st of September, 1852); hemorrhage during the disease, and previous anæmia, have a similar modifying effect.

" The next general anatomical characteristic is the altered condition of the mucous membranes. In the mouth, œsophagus, stomach, and

intestines, it has suffered some serious alteration. The epithelium is peeled off, generally or partially, or the whole depth of the membrane is softened, as if acted on by an alkali, or is eroded through to the submucous coat.

“These are the two general facts common to all normal cases, and obvious to any careful observer. Inflammatory diseases seem congenial to the action of the yellow-fever poison; and during the progress of the disease, we have frequently found them supervening as epiphena. We have also seen yellow fever apparently excited into action by their presence, and consequently the traces of these accidental complications will occasionally be found in the post-mortem examinations. But the lesions of yellow fever seem to have little or nothing in common with those of simple inflammation, and the only *quasi*-inflammatory condition which seemed a result of the disease was, in some instances, where the capsule of the liver—such as in the case of Ellwood (Seaman’s Hospital, 21st of February, 1853)—was red and vascular, and, as if in incipient inflammation, excited apparently by the mechanical distension of the engorged parenchyma. It is likely that the suppurations of the liver, which have occurred as sequelæ of yellow fever, were occasioned by the disorganization of tissue which follows the congestions and ecchymoses before referred to; and that, had Macey lived, he would have suffered from an abscess in the softened part of the liver, as the only mode of reparation which nature could institute.

“In the post-mortem notes which follow in the reports of some of the fatal cases, the terms ‘blood congested’ and ‘bile congested’ have been used, and require some explanation. The first term is obvious enough, and means what it says—engorgement with blood; but the latter does not always mean engorgement with bile: it has reference more to colour than any other quality; and when the liver was yellow, of whatever shade, the term ‘bile congested’ was applied to it, in contradistinction to the dark purple or slate colour which indicated hyperæmia. Now, this yellow condition of the *enlarged* liver is not yet satisfactorily understood. It is no doubt true that the liver is found sometimes dry and anæmic, from having been drained by hemorrhage, or vital or physical determination to some neighbouring viscus; and then the capsule of Glisson, tinged by the bile, communicates the ochre or straw or cream colour to the whole mass. But where enlargement also is present, with or without anæmia, the explanation is not sufficient. Of what does this yellow or ochre enlargement consist? This point has not yet received sufficient attention. But I have found that, in these cases, a small portion of the parenchyma scraped off and submitted to the microscope, showed an abundance of oil globules. In cases which have terminated fatally after protracted illness or apparent convalescence, the bloody condition of the kidneys has passed away, and the cortex is hypertrophied, and of a dull ochre colour. This condition seems clearly due to the impaction of the tortuous tubuli uriniferi with the same epithelial and fibrinous (?) matter which constitutes the sediment of the urine; and the presence of this matter and fragments of tube-casts can be demonstrated by the microscope to constitute a part of this yellow

hypertrophy. But I have never been able to detect oil globules in the kidney; and the instance narrated in the post-mortem notes is undoubtedly a fallacy of observation, the oil most likely having been derived from the blade of the knife. The congestion of the kidneys during life seems to have been attended with no irritation; it is signalled only by albuminosity of the urine. With one exception, nothing like diuresis was observed, nor could have taken place without being noticed, till convalescence became established. Neither was there pain in the congested organ but once or twice. (Juan de Nolriga, 24th of December, 1852). The pain so often complained of in the loins is lumbar, and in many of the best-marked cases, careful pressure failed in detecting tenderness of the kidneys. The lesion of the lungs was seldom, if ever, attended by cough or pain or râle, or any sign to attract the attention of the patient or physician until the blood extravasation demanded expectoration. On the liver there seemed to have been induced an irritant effect. The suppression of bile in the last stage had always been preceded by an erethism of that organ, as indicated by the copious secretion of bile, independent (as in the case of the master of the *Undine*), although no doubt increased by the action, of the resolvent dose; and there was frequently tenderness of the epigastrium towards the right side early in the disease, and before it could be occasioned by, as it no doubt frequently is in the last stages, the distension of the capsule: the kidneys and lungs, therefore, seemed to suffer passively, while the liver suffered from active congestion. There was not always a perfect correspondence between the lesion of the kidneys and their functional disturbance during life.

“Occasionally I have noticed the kidneys in an almost apoplectic state, and yet their functions were scarcely interrupted; and, on the other hand, I have been disappointed in the amount of congestion in instances of entire suppression. In the former case, perhaps, the engorgement occupied less the secreting than the ductal tissue; but this point requires much more investigation. In the post-mortem notes, the weight of the several viscera is given. This precision would have been enhanced had the total weight of the body in each case been also given. Still the weights assist in forming an estimate of the condition; but weight does not in all cases represent the proportional degree of congestion: thus, in Maxwell’s case (Seaman’s Hospital, 12th of March, 1853), the kidneys seem to have been naturally small; and although their weight was not extraordinary, yet the engorgement was so intense that their shape became altered to globularity. About one hundred dissections were made since the beginning of the epidemic; but the notes of the first series became confused, and are rejected; and several examinations were made of which no record was kept.”

ART. 21.—*On “Sudden and General Constitutional Decomposition.”*
By Dr. R. D. LYONS.

(*Dublin Hospital Gazette*, Jan. 1, 1856.)

The following post-mortem examination, and the comments which accompany it, are well calculated to illustrate the frightful manner in

which the constitution was occasionally undermined by the trench and other duties of the campaign now happily terminated. Nothing is said of the antecedents of the case, except that it occurred in the Crimean practice of Dr. Howard, of the 20th regiment.

“The *sectio cadavaris* was made on the 7th of August, about twenty-two hours after death. The temperature of this and the preceding day I have noted at about 80° to 85°, the latter being the maximum in the shade. The gaseous distension of the body, and the frightfully distorted condition of the face, made it utterly impossible to recognise a feature, and would, I conceive, have put identification, if necessary for any medico-legal purpose, quite out of the question. The tension and distension of the abdomen were extreme, while numerous blobs or large vesicles existed on its anterior wall. There was *immense* tumefaction with extensive blue discolouration and large epidermic vesication of the whole of the upper part of the thorax and neck. The globes and lids of the eyes were greatly swollen, and discharged much sanies. Large arborescent veins were observable on the thorax, arms, groin, and upper parts of the thighs: the surface generally was emphysematous, and crackled on pressure.

“Gas escaped with great violence from the abdomen when first opened, and all the tissues were infiltrated with gas, while the intestines were distended to a great size.

“The lungs presented large vesicles on the surface, and broke down immediately on the least pressure or traction, the fingers passing through their substance on the least attempt to grasp them; the parenchyma breaking down at once, but leaving a sort of framework of the vessels and tubes.

“The pericardium was distended with gas, and the fatty tissue of the heart blown up; the heart itself was full-sized, round, and convex, but contained not a particle of blood; nor was there any in the great vessels.

“The liver was covered with blobs or vesicles under the peritoneal coat; its colour was blueish black, while its tissue was soft, putriginous, and broke into a granular pulp on the least pressure. The spleen was soft and rotten; the kidneys on their surface, and to the depth of half an inch, were soft and pulpy, but the cones were a little more solid. The large intestines were of a dirty greenish black throughout, and were distended with a very fetid gas.

“The cava and iliac veins contained but little blood, but were full and round, being distended with gas: a couple of small transparent vessels crossed the lower part of the cava, distended in knot-like or beaded particles.

“A very small quantity of dark, quite fluid, semi-serous blood was found in the iliac veins, while a somewhat purulent-looking matter could be pressed with the edge of the knife from the swollen veins, both the tributaries of the iliacs and those on the surface of the thigh; there was some deposit of lymph in the lower three inches of the femoral vein; the femoral artery was pervious to the point of section.

“In the stump, very slight union had taken place at the external edge of the flaps, but within, the texture was converted into a blackish putrilage.

"The smell of all the tissues was very peculiar rather than intense. My researches on the curious subject of histolysis have made me familiar with all the phases of decomposition; and I can say, that I have never, under the highest temperatures, seen changes, such as were effected in this and some similar cases within twenty-two hours after death, produced until after the lapse of very many days.

"On the day in which I inspected Dr. Howard's case, I also made other post-mortem examinations, and found the post-mortem changes at their normal standard, so to speak, notwithstanding the high temperature of both day and night. We have, therefore, to seek some explanation for the rapidity and intensity of the changes produced in the case under consideration. I am not satisfied, however, that I am enabled to do more at present than indicate the pathological category in which it is to be ranked.

"After very attentive consideration of a number of cases which have come under my observation, presenting many features in close parallel with those just detailed in Dr. Howard's case, I am led to believe that these very remarkable phenomena are the result of a process of sudden and general constitutional decomposition; the immediate origin of which decomposition is, I conceive, to be referred to a local, suddenly developed, but intense gangrene of the parts at the seat of injury or operation, which, by a sort of *pathological catalysis*, determines, in the first instance, the decomposition of the blood, and through this medium that of all the tissues with which it comes in contact. It is remarkable that the various tissues and organic parts not only seem dead and spontaneously undergoing decomposition as in ordinary cases, but appear to show evidence of a destroying agency, which I would seek the explanation of in the sudden and, it may be, *explosive* decomposition of the circulating fluid, its chemical constituents assuming the gaseous form in a sudden and violent manner; the resulting gases in their expansion causing a mechanical separation and breaking up of the particles of the tissues.

"I have now unhappily witnessed many examples of this affection. It has generally occurred in cases which have undergone the graver surgical operations; as, more especially, amputations in the upper and middle thirds of the thigh; but, I have likewise seen it after less serious operations. After the affairs of the 7th and 18th of June, the final assault on the Grand Redan on the 8th September, and the very lamentable catastrophe of the 15th of November, produced by the explosion in the French artillery park and English siege train of the Right Attack, several cases came under my notice, and from its effects, I, as well as others, had to deplore the loss of some of our very best surgical cases.

"It will be my duty in another place, and in full detail, to enter into the consideration of the clinical and pathological history of this very fatal affection, and I have reason to think that the profession will be favoured with some valuable observations on it by my friend Dr. Mowat, Staff Surgeon, 1st class, who has, with such distinction, presided over the General Hospital in camp, during the eventful period of the campaign which has just drawn to a close. I shall, therefore, not trespass much further on your columns than to state,

that while the clinical features of these cases presented very great variety, the chief pathological characters bore in general a very close resemblance to those detailed in Dr. Howard's case, which may, indeed, be taken as a standard of the extreme result which may thus be produced.

"That it is a state beyond the remotest hope of the successful application of any curative means, when once it is established, is, I fear, but too clearly manifest. The suddenness with which, in many cases, it has been developed, and the all but total absence of premonitory symptoms, leave no room for therapeutic experiment of any kind.

"You have, perhaps, left your patient the night before, to all appearance doing well, and when, on the third day or after, you approach him at your hour of visit, you are quite struck by a peculiar fetor, which once perceived cannot be again mistaken; the pulse may be quiet, the countenance, perhaps, a little pale and anxious, and you are little prepared to find, when you turn down the bed-clothes, that the entire stump is, for many inches, it may be through more of the limb even, entirely dead and its tissues irreparably destroyed. A few hours more, and your patient, who was perhaps himself the least conscious of any danger, is a decomposing and disfigured corpse. As already observed, however, the clinical features are very various. Those I have here attempted to describe are drawn from the phenomena presented in the cases of some of the most stalwart grenadiers and artillerymen that could adorn any army, many of them, too, our own countrymen, who succumbed after operations in the middle and upper third of the thigh on the third or fourth day, from the effects of this truly awful form of disease."

(c) CHRONIC DISEASES.

ART. 22.—*On Anæmia.* By M. BECQUEREL.

(*Gazette des Hôpitaux*; and *Dublin Hospital Gazette*, March 15, 1856.)

The principal object in the following remarks (which were delivered in a lecture at the Hôpital de la Pitié), is to show that anæmia and chlorosis are really distinct affections—distinct in their causes, character, and treatment required for their cure. M. Becquerel has only yet spoken upon anæmia.

"*Anæmia.*—This term is badly chosen, signifying as it does the absence of blood; it cannot, however, now be changed, and must continue to be used with the acceptation so commonly attached to it by physicians. We may define anæmia to be: A morbid state, characterised by a notable diminution in the proportion of globules in the blood. Thus explained, we immediately see that anæmia is not, properly speaking, a disease in itself, but simply a morbid state consecutive to many others. And thus its history will include that of all those diseases with which it is found combined, and under whose influence it is produced. In order clearly to understand the state of

the blood in anæmia, it will be well first to trace the relative composition of the healthy blood.

1000 parts of healthy blood contain :

Water,	from 830 to 770 parts.
Globules,	„ 140 to 120 „
Fibrine,	„ 2 to 3 „

In 1000 parts of serum there will be :

Albumen,	between 70 and 80 parts,
Salts, extractive matter,	8 to 12 parts.

“ The change which anæmia makes in these figures is the following : The quantity of water rises above 830, getting as high as 880, while the proportion of globules descends from 120 to 40. I consider there are three degrees of anæmia : 1st degree (slight anæmia), globules comprised between 100 and 120 ; 2d degree (decided anæmia), globules comprised between 80 and 100 ; 3d degree (aggravated anæmia), globules below 80. The proportion of fibrine seems to vary very little. The quantity of albumen also in the serum varies very little ; when, however, the anæmia is considerable, the quantity of this principle is always diminished, descending to 65 in the 1000 parts. And when this is the case we find the salts, oily and extractive matter, augmented to their maximum physiological quantity. The albumen may, indeed, be notably diminished at the same time as the globules, but this is a morbid state, constituting a complication, examples of which we find in the dropsey.

“ These modifications of the blood which we are considering are developed from several very different causes. Amongst them are to be reckoned all the circumstances which tend to enfeeble the individual, to impair the vital powers, and to injure the organization. An insufficient quantity of food, particularly if continued for a considerable time, will produce anæmia. Strict regimen is, therefore, an exciting cause ; it is in this way I account for the diminution of globules, which we found to exist after all acute diseases in our experiments with M. Rodier. We ought, then, to find a certain diminution of globules in convalescent patients. According to the researches of MM. Andral and Gavarret, there is, in certain cases of cancerous disease of the stomach, an inanition resulting from the incessant vomiting. This sort of forced abstinence brings on readily a diminution of the globules of the blood. Analogous results are produced by a course of diet composed exclusively, or nearly so, of vegetables.

“ Privations and want act in the same way, and may be considered as the two great social conditions which most rapidly produce a state of anæmia. Want of proper oxygenation of the air, want of light, with minor degrees of privation, produce diminution in the globules. This I have observed in prisoners kept for a long time in obscure dungeons. Backe has admirably described an anæmia as it exists in the miners of Auzun, produced by causes of this kind. A prolonged residence in a damp situation will likewise produce the same result.

" I would also include amongst the causes of anæmia, acute and prolonged moral emotions; also long-continued grief, disappointed love, a sedentary life, excessive mental exertion: also too great muscular fatigue, venereal excesses, and, finally, excess of every sort.

" *Pathological causes.*—Diminution of the globules of the blood, below their normal quantity, arises from a great number of morbid states, sometimes diseases, sometimes the means used to check disease. Both acute and chronic diseases may produce it; in the former a good deal will depend upon the strength of the patient, and upon the antiphlogistic means used for his cure. Thus it is much more rapidly produced in children than in adults. In a person of good constitution, previously in good health, it is with difficulty produced. In chronic diseases anæmia almost necessarily follows, but it will become much more aggravated when the fluids of the body have been sensibly diminished by hemorrhage, diarrhoea, or even an excessive secretion of urine. It is also developed with remarkable celerity when the disease is due to the development of some new organic formation, such as cancer or tubercle.

" Certain therapeutical agents also produce anæmia, or at least diminish the globules of the blood. These are the following: *Bleeding*—Anæmia is more marked in proportion as the loss of blood has been copious, repeated, or accompanied by a strict abstemious regimen. *Purgatives*, when very active, giving rise to frequent and abundant evacuations, produce anæmia very rapidly. *Powerful diuretics*, and, lastly, mercury or iodine, when used for a long time, *i. e.*, by their abuse, produce anæmia. Let us now examine the principal classes of the diseases ending in this constitutional affection.

" 1. *Inflammations.*—All that we have said of the acute and chronic diseases is applicable here, with the addition of these two facts, that inflammations of the intestines producing diarrhoea quickly cause anæmia, and that abundant suppuration, when prolonged for a certain time, continually produces anæmia.

" 2. *Hemorrhages* are the most frequent, the best marked, and the most powerful causes by which anæmia is produced, and the disease will be formidable in proportion as the hemorrhages have been frequent and copious.

" 3. *Dropsies* are frequently accompanied by a diminution in the proportion of globules in the blood. Thus, in Bright's disease this diminution is produced at the same time as that of the albumen in the serum.

" 4. *Organic diseases of the heart* are accompanied frequently by a diminution of the proportion of globules, chiefly when they have advanced to such a point as to produce peritoneal dropsy.

" 5. *Constitutional syphilis*, lasting for a long time and badly treated, often determines anæmia.

" 6. Certain nervous diseases, such as hysteria and hypochondriasis, when they are very obstinate, are accompanied by a diminution of the globules.

" 7. *Diseases of the spinal cord*, especially when chronic, produce anæmia.

" 8. Intermittent fevers lasting a long time, or even a residence in

a marshy locality, produces a peculiar cardiac state, of which a diminution of the globules is an essential element.

“9. Certain poisons, especially lead, quickly produce anæmia.

“10. *Involuntary seminal emissions, &c.*—*Symptoms.*—Anæmia frequently constitutes the only malady, and is then known by certain distinctive signs. But again it is often so mixed up with other affections, that it is by no means easy to decide what symptoms are to be attributed to the anæmia, and what to the coexistent disease. In order to facilitate its study we may divide anæmia into simple and complicated.

“*Simple anæmia.*—The morbid phenomena which simple anæmia gives rise to vary in intensity according to the degree to which the diminution of the globules has arrived, in proportion as the number of globules is represented by some number between 100 and 120, or between 80 and 100, or below 80. As the basis of our description we may take the medium anæmia, that represented by the figure between 80 and 100.

“The aspect of an anæmic patient is characteristic; their countenance is expressive of suffering and weariness, the skin is pale, and their pallor is sometimes a dead white, sometimes of other shade of colour. When the anæmia is very aggravated, we have a greenish-white colour, but this new particular belongs to chlorosis. In general in anæmia, especially in females, the eyes are surrounded by a blueish circle. With this want of colour in the skin, there is almost always a general wasting, which at the first glance distinguishes it from the puffy swelling of the tissue, which is obscure in chlorosis. The loss of power, which is in direct proportion to the degree of diminution of the globules, produces in the patients a great susceptibility of fatigue, which is one of the characters distinctive of anæmia. Sleep is in general preserved; it seems as if the patients felt their need of sleep to restore their loss of power from the diminution of the globules.

“The appetite is in general preserved, sometimes augmented, accompanied by thirst, which becomes excessive in the aggravated cases. In the great majority of anæmic individuals, digestion in the stomach is carried on well; there is no gastralgia, except in some rare cases.

“Constipation is an habitual phenomenon in the anæmic. We do not say the same of the development of gas, which we have observed but occasionally. We may sum up the symptoms observed in the digestive tube by saying, that in the greater number of cases of simple anæmia there is neither any disease very decided, nor any morbid phenomena very remarkable.

“In the respiratory apparatus we have nothing to remark but dyspnœa, which is one of the most constant symptoms of anæmia. When the globules are but little, or but in a medium degree diminished, this dyspnœa does not show itself, except when some exertion is made, such as going up stairs, &c. But in the worst forms of anæmia, where we find the figure expressing the proportion of globules come down to 50 or 60, the dyspnœa becomes considerable upon the slightest exertion, the patient not being able to turn in bed without suffering from dyspnœa.”

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 23.—*On some unrecognised forms of Mental Disorders.*

By Dr. FORBES WINSLOW, D.C.L.

(Journ. of Psychol. Med., Jan. 1856, and April, 1856.)

The object of these very interesting papers is to show that there are conditions of the mind which are productive of serious, fatal, and irremediable mischief and misery, which do not come under the definition of insanity, and which persons, for the most part, are too slow to recognise as degrees of insanity, but which nevertheless require very prompt treatment.

“The affections of which I speak,” says Dr. Winslow, “are necessarily obscure, and, unlike the ordinary cases of mental aberration of everyday occurrence, they frequently manifest themselves in either an exalted, depressed, or vitiated state of the moral sense. The disorder frequently assumes the character of a mere exaggeration of some single predominant passion, appetite, or emotion, and so often resembles, in its prominent features, the natural and healthy actions of thought, either in excess of development or irregular in its operations, that the practised eye of the experienced physician can alone safely pronounce the state to be one of disease. I do not refer to mere ordinary instances of eccentricity, to certain idiosyncrasies of thought and feeling, or to cases in which the mind appears to be absorbed by some one idea, which exercises an influence over the conduct and thoughts quite disproportionate to its intrinsic value. Neither do I advert to examples of natural irritability, violence or passion, coarseness and brutality, vicious inclinations, criminal propensities, excessive caprice, or extravagance of conduct, for these conditions of mind may, alas! be the natural and healthy operations of the intellect. These strange phases of the understanding—these *bizarceries* of character—these vagaries of the intellect—these singularities, irregularities, and oddities of conduct, common to so many who mix in every day life, and who pass current in society, present to the philosophical psychologist many points for grave contemplation and even suspicion; but such natural and normal, although eccentric states of the intellect, do not legitimately come within the province of the practical physician unless they can be clearly demonstrated to be *morbid results*—to be positive and clearly established deviations from cerebral and mental health. It has been well observed by Dr. Coombe that a brusque, rough manner, which is natural to one person, indicates nothing but mental health in him, but if another individual, who having always been remarkable for a deferential deportment and habitual politeness, lays these qualities aside, and, without provocation or other adequate cause, assumes the unpolished forwardness of the former, we may justly infer that his mind is either already deranged or on the

point of becoming so ; or if a person who has been noted all his life for prudence, steadiness, regularity, and sobriety, suddenly becomes, without any adequate change in his external situation, rash, unsettled, and dissipated in his habits, or *vice versa*, every one recognises at once in these changes, accompanied as they are by certain bodily symptoms, evidences of the presence of disease affecting the mind through the instrumentality of its organs. It is not therefore the abstract feeling or act that constitutes positive proof of the existence of mental derangement, but a departure from, or an exaggeration of, the natural and healthy character, temper, habits of the person so affected.

“ These forms of unrecognised mental disorder are not always accompanied by any well-marked disturbance of the bodily health demanding medical attention, or any obvious departure from a normal state of thought and conduct such as to justify legal interference ; neither do these affections always incapacitate the party from engaging in the ordinary business of life. There may be no appreciable morbid alienation of affection. The wit continues to dazzle, and the repartee has lost none of its brilliancy. The fancy retains its playfulness, the memory its power, and the conversation its perfect coherence and rationality. The afflicted person mixes as usual in society, sits at the head of his own table, entertains his guests, goes to the stock-exchange, to his counting house or his bank, engages actively in his professional duties, without exhibiting evidence, very conclusive to others, of his actual morbid condition. The mental change may have progressed insidiously and stealthily, having slowly and almost imperceptibly effected important molecular modifications in the delicate vesicular nervous neurine of the brain, ultimately resulting in some aberration of the ideas, or alteration of the affections, propensities, and habits.

“ The party may be an unrecognised monomaniac, and acting under the terribly crushing and despotic influence of one predominant morbid idea, be bringing destruction upon his once happy home and family. His feeling may be perverted and affections alienated ; thus engendering much concealed misery within the sacred circle of domestic life. His conduct may be brutal to those who have the strongest claims upon his love, kindness, and forbearance, and yet his mental malady be undetected. He may recklessly, and in opposition to the best counsels and most pathetic appeals, squander a fortune, which has been accumulated after many years of active industry and anxious toil. *He may become vicious and brutal—a tyrant, a criminal, a drunkard, a suicide, and a spendthrift, as the result of an undoubtedly morbid state of the brain and mind, and yet pass unobserved through life as a sane, rational, and healthy man.*

“ We witness in actual practice all the delicate shades and gradations of such unrecognised and neglected mental alienation. It often occurs that whilst those so affected are able to perform with praiseworthy propriety and with scrupulous probity and singular exactness, most of the important duties of life, they manifest extraordinary and unreasonable antipathies, dislikes, and suspicions against their dearest relations and kindest friends. So cleverly and successfully is this mask of sanity and mental health sometimes worn ; so effectually is all sus-

picion disarmed, that mental disorder of a dangerous character has been known for years to progress without exciting the slightest notion of its presence, until some sad and terrible catastrophe has painfully awakened attention to its existence. Persons suffering from latent insanity often affect singularity of dress, gait, conversation, and phraseology. The most trifling circumstances rouse their excitability, —they are martyrs to ungovernable paroxysms of passion, are roused to a state of demoniacal furor by insignificant causes, and occasionally lose all sense of delicacy of feeling and sentiment, refinement of manners and conversation. Such manifestations of undetected mental disorder are often seen associated with intellectual and moral qualities of the highest order. Neither rank nor station is free from these sad mental infirmities. Occasionally the malady shows itself in an overbearing disposition. Persons so unhappily disordered browbeat and bully those over whom they have the power of exercising a little short-lived authority, and, forgetting what is due to station, intelligence, reputation, and character, they become within their circumscribed sphere petty tyrants, aping the manners of an Eastern despot. They are impulsive in their thoughts, are often obstinately and pertinaciously riveted to the most absurd and outrageous opinions, are dogmatic in conversation, are litigious, exhibit a controversial spirit, and oppose every endeavour to bring them within the domain of common sense and correct principles of reasoning. Persons who were distinguished for their sweetness of disposition, unvarying urbanity, strict regard for truth, diffidence of character, evenness of temper, and all those self-denying qualities which adorn and beautify the human character, exhibit, in this type of disordered intellect, states of morbid mind the very reverse of those natural to them when in health. The even-tempered man becomes querulous and irascible; the generous and open-hearted becomes cunning and selfish; the timid man assumes an unnatural boldness and forwardness. All delicacy and decency of thought is occasionally banished from the mind, so effectually does the spiritual principle in these attacks succumb to the animal instincts.

“ The naturally gentle, truthful, retiring, and self-denying, become quarrelsome, cunning, and selfish—the diffident bold, and the modest obscene. We frequently observe these pseudo-mental conditions involving only one particular faculty, or seizing hold of one passion or appetite. Occasionally it manifests itself in a want of veracity, or in a disposition to exaggerate, amounting to positive disease. It may show itself in a disordered volition, in morbid imitation, in an inordinate vaulting ambition, an absorbing lust of praise, an insane desire for notoriety, a sudden paralysis of the memory or impairment of the power of attention, with an obliteration from the mind of all the events of the past life. The disorder occasionally manifests itself in a depressed, exalted, or vitiated state of the reproductive function—in morbid views of Christianity, and is often connected with a profound *anæsthesia* of the moral sense. Many of these sad afflictions are symptomatic of unobserved, and, consequently, neglected cerebral conditions, either originating in the brain itself, or produced by sympathy with morbid affections existing in other tissues in close organic relationship with the great nervous centre.

"The majority of these cases will generally be found associated with a constitutional predisposition to insanity and cerebral disease."

The whole paper ought to be very carefully studied by all medical men, for all are deeply concerned in the subject of which it treats.

ART. 24.—*On the organic cause of Mental Alienation, accompanied by General Paralysis.* By M. BAYLE.

(*Journ. of Psychol. Med.*, Jan. 1856.)

The chief points in the paper are laid down as follows :

"1. There is a particular species of mental affection, of a symptomatic character, perfectly distinct from the essential forms of alienation, and forming a malady by itself, an individual malady, having its own causes, with symptoms and anatomical characters too distinct to permit of their being confounded with any other affection.

"2. Its causes have one common effect in producing slow or sudden congestion of the vessels of the pia matter and brain.

"3. The symptoms may be reduced to two, which commence and progress concurrently—viz., paralysis general and incomplete, and non-febrile delirium with great feebleness of the faculties. The paralysis makes constant progress in the course of disease, and terminates in almost entire privation of voluntary movements. The delirium has the peculiar feature of being characterised by ambition, and passing successively through the forms of monomania, mania, and dementia. Frequently, mania is wanting.

"4. The anatomical characters are those of chronic inflammation of the membranes of the convexity of the cerebral hemispheres, often extending to the subjacent surface of the substance of the brain itself.

The proofs of these positions are deduced from the post-mortem examination of the brains of insane paralytics compared with the brains of sane individuals, and from the analogy of this disease with other inflammations of serous membranes.

"Among the lesions discovered in the examination of one hundred bodies, and which were characteristic of chronic inflammation of the membranes of the brain, some were met with in all cases, while others were absent in a certain number. The changes constantly met with were opacity, thickening, increased toughness of the arachnoid to such an extent that sometimes it was possible to suspend a slice of brain by its means without tearing it; extreme congestion of the pia mater; thickening of the arachnoid of the ventricles, which also was covered with granulations; considerable effusion of serum into the cavities of the ventricles and into the network of vessels of the pia mater.

"The morbid appearances less frequently met with were adhesions of the membrane, and the softening of the surface of the convolutions; false membranes, or extravasated blood. The substance of the brain was softer in a few cases; in some it was firmer; in the majority it retained its natural consistence.

"These post-mortem appearances are not met with in other diseases than chronic meningitis; the slight opacities, &c., occurring towards

the close of life in other forms of cerebral disease, do not offer even an analogy. They have always been found by M. Bayle after death from general paralysis, and never in the case of patients who have died from other maladies; hence it is inferred that chronic meningitis is the organic cause of insanity with general paralysis."

ART. 25.—*The identity of Dreaming and Insanity.*
By M. MOREAU, of Tours.

(*Annales Medico-Psychologiques*, July, 1855.)

The states of dream, delirium, and insanity, according to M. Moreau, are psychologically confounded. Madness is the dream of a man who is awake—"la folie est le rêve de l'homme éveillé." In madness, as in a dream, the thoughts wander in the same wild manner, and the power of controlling them is lost. In madness, as in a dream, there is often the same confusion as to personal identity. The intense mental pre-occupation of the madman is reflected in the lesser mental pre-occupation of the dreamer, and there is the same insensibility to external impressions in both.

ART. 26.—*The influence of Menstruation on Mania.*
By M. CLEMENT OLLIVIER.

(*Journ. de Med. et de Chir. Pratiques*, Oct. 1855; and *Dublin Med. Press*, Nov. 7, 1855.)

"In reading the report of the discussions of the Academy on mania, I have been struck with a remarkable circumstance—namely, that not one member has alluded to the influence which chronic affections of various organs may exercise on the mind; each person attributing, on the contrary, all degrees of insanity to encephalic lesions.

"Every one is, however, aware of the influence of affections of the liver on mental diseases, and, doubtless, none are ignorant of the essays of M. Brière de Boismont on the effect of menstruation on the same class of infirmities.

"In a small pamphlet entitled 'Supériorité des Emissions Sanguines Directes dans les Affections Utérines,' published by me in 1847, I have quoted some remarkable facts tending to establish in an absolute manner the influence of affections of the womb on mental diseases. I have in particular brought forward two cases; one, that of a woman who was for twenty years chained in a dungeon in the hospital of Angiers, and was cured after having had a considerable loss of blood from the uterus.

"The second case was that of the daughter of one of our celebrities of the College of France, who was placed under my care by M. Récamier; this young woman was affected with an inflammatory congestion of the uterus, she had been eight years deranged, and at the menstrual period became so excited that she ran through the streets. The cure of the uterine affection removed the mental disease at the end of a two months' course of treatment.

"But the uterine affection which most commonly deranges the

reason of women is ulceration, more or less severe, of the cervix uteri. So positive have been the results of my observations on this subject, that whenever a woman comes to consult me with any mental disturbance, or any disease of the imagination, I never fail to discover some irregularity in menstruation, or some ulceration of the cervix uteri, the removal of which is invariably followed by that of the mental affection.

"In a word, I doubt that an attentive observer can find a woman deranged in mind who is not or has not been under the influence of some uterine affection; I could bring forward an immense number of cases in support of this opinion, and I am surprised at the silence of the Academy on the subject.

"I shall not endeavour here to develop the theory of this influence of uterine disease on affections of the mind. Hippocrates long ago said, the womb is the whole woman."

ART. 27.—*On the Paralysis of the Insane.*
By M. TRELLAT, Physician to the Salpêtrière.

(*Annales Medico-Psychologiques*, April, 1855.)

The paralysis of the insane is an affection which invariably ends in death. It attacks man in his most vital centre, and, simultaneously or successively, undermines and destroys the powers of thought and motion.

Wanderings of an ambitious character, and not symptoms of simple dementia, are among the earliest signs. Indeed, attentive observation will always detect hallucinations of this kind. Difficulty of speech, which is not caused by an acute malady, especially if this difficulty be accompanied with ideas of richness and grandeur, is a mortal sign.

The disease may progress with greater or less rapidity, and with occasional pauses or moments of amelioration, but it is never arrested. After difficulty of speech has manifested itself, the patient may die within the year, and he will not outlive three years.

This affection is very common in France, and apparently also in England, Belgium, and Germany. It is also found in Italy, and in warm countries, but less frequently than in countries further north, and where intemperance is a more common vice.

ART. 28.—*Statistics of Delirium Tremens.* By Dr. JOHN MACPHERSON.
(*Indian Annals*, Oct. 1855.)

In this paper, after some general remarks upon the nature of the disease, and after examining the statistics of other writers, Dr. Macpherson proceeds to analyse the statistics of two hospitals at Calcutta, especially the General Hospital. This evidence is of great value, for, as is well known, delirium tremens is a very common disease among the European residents in India, and among those who are especially under European influence. Thus, in Bengal (as Dr. Macpherson believes), more than 600 cases of ebrietias are annually sent to hos-

pital out of an army of about 18,000 strong ; and in Bombay and Madras it is not very different.

Dr. Macpherson's conclusions may be thus summed up :

1. The extreme discrepancy in returns as to the frequency and fatality of delirium tremens mainly results from cases of ebrietatis and of delirium tremens not having been carefully distinguished and separated.

2. There is a good deal to show that the age of 40 to 45 or to 50 produces most cases of delirium tremens, as it does of mania, and, though less certainly, that the greatest mortality occurs between 25 and 35, certainly above 25.

3. The disease is far less frequent in women than in men, but this results probably much more from difference of habits than from difference of sex.

4. The disease proves fatal oftenest within four days of the attack.

5. There is a presumption that heat favours the production of delirium tremens, and a still stronger one that it increases the mortality by it.

It would naturally follow as a corollary from this, that delirium tremens ought to be more fatal in tropical than in temperate climates. But the conflicting evidence afforded by the collection of facts under the head of general mortality, gives no support to this view. The experience of the future must be accurately recorded, before this point can be settled.

6. With reference to the morbid changes which have been enumerated, many are to be considered as the result of habitual indulgence in alcoholic potations. In cases, which are rare, in which the patient dies in the first or second attack, the appearances most likely to be met with are congestion of the cerebral vessels, some venous effusion, presence of more puncta than usual in the brain, carmine patches in the stomach. The brain and its coverings may appear quite healthy, but the latter appearance in the stomach is seldom absent.

ART. 29.—*On Apoplexy in relation to Renal Disease.*

By Dr. KIRKES, Assistant-Physician to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, Nov. 24, 1855.)

Dr. Kirkes's object in the present paper is to contribute a few additional facts in proof of the frequency with which the kidneys are found diseased in fatal cases of apoplexy, and to offer some suggestions towards explaining the connection between the renal and the cerebral affections. He says :

"An analysis of the fatal cases of apoplexy, which have fallen under my own observation, shows that in a large number the kidneys were extensively diseased. I have excluded from this analysis the cases of merely congestive apoplexy, for the same reason that induced me to omit those cases of apoplexy, with and without albuminuria, which have not died, or not been examined after death, namely, because without the visible evidence of extravasated blood within the cranium, it is just open to the objection that one or more of these cases might

not be purely apoplectic. I have excluded, also, those cases in which the brain only has been examined after death, or in which but an imperfect inspection of other organs has been made, because with the object at present in view, it was advisable to make use of those cases only, in which a complete examination of all the important parts had been performed.

"With these exclusions, I find I have notes of 22 fatal cases of sanguineous apoplexy, in which the thoracic and abdominal viscera, as well as the contents of the cranium, were more or less minutely examined after death. Of these 22 cases, the kidneys in no less than 14, presented unmistakeable evidence of disorganization: and with but few exceptions the disorganization amounted to the small, hard, shrunken, and granular condition so characteristic of advanced renal degeneration: the kidneys in the remainder of the 14 cases being generally large and soft, and greasy-looking. So large a proportionate number as 14 out of 22 seems clearly to indicate that the renal disease bears a very close relation to the apoplexy. In order to determine the nature of this assumed relation, however, the analysis of the cases must be pursued further.

"Of the 14 cases in which the kidneys were diseased, there was only one in which the heart was not enlarged. The enlargement in these, 13 cases, was principally, and often exclusively, confined to the left ventricle. In 5 there was no valvular disease whatever to explain the hypertrophy; in 4 there was slight thickening, probably not amounting to inefficiency, of the mitral or aortic valves; and in 4 only was there sufficient valvular disease to account for the enlargement of the heart. So that certainly in 5, and probably in 9 cases, the cause of the enlargement was remote from the heart, and might, with probability, be referred to the coexistent disease of the kidneys. And, even in those cases in which the valves were extensively affected, the renal disease might be supposed to have contributed in some degree to the enlargement which the heart presented.

"This part of the analysis, while it confirms the opinion almost generally entertained, that hypertrophy of the left ventricle of the heart is among the most common of the sequences and results of prolonged disease of the kidneys, would also seem to furnish us with the true interpretation of the connection so obviously subsisting between advanced renal disease and apoplexy. For the researches of Dr. Burrows, and others, have placed it beyond a doubt that disease of the heart, especially hypertrophy of the left ventricle, has a most direct relation to apoplexy, constituting indeed, in many cases, the immediate cause of the attack.* And since hypertrophy of the left ventricle, independent of valvular disease is, as just shown, so apt to follow upon disease of the kidney, we seem to possess herein an intelligible explanation of the occurrence of apoplexy in connection with renal disease; the hypertrophied heart being in such cases the medium through which the affection of the kidney manifests itself injuriously upon the cerebral circulation. In no other way, I think,

* Burrows, 'On Disorders of the Cerebral Circulation,' 1846; see also for an interesting examination of the subject, Dr. R. Quain's 'Observations on Cerebral Apoplexy,' 1849.

can we readily understand how the renal disease should give rise to apoplexy. The impure condition of the blood, resulting from the detention of the excretory principle of urine is capable of explaining many of the complex and often serious nervous phenomena that are apt to occur in advanced diseases of the kidney, but it cannot be supposed to explain, at least directly, the rupture of the small blood-vessels of the brain, and the consequent occurrence of sanguineous apoplexy.

"A still further analysis of the 22 cases of sanguineous apoplexy, which form the basis of the present inquiry, will help to explain the mode in which hypertrophy of the heart, whether dependent on valvular or renal disease, or on the two conjoined, or on any other cause, may lead to the apoplectic attack. For of the 13 cases of associated cardiac and renal disease, there were 12 in which the coats of the cerebral arteries were more or less strikingly diseased, while they were diseased also in 5 other cases, in which the kidneys were healthy, and in 3 of these latter there was enlargement of the heart. So that of the 16 cases in which enlargement of the heart was associated with sanguineous apoplexy, no less than 15, that is all but one, presented disease of the cerebral arteries. Without bringing into this analysis any results of an examination into the frequency of disease of the cerebral vessels in conjunction with cardiac affection independent of apoplexy, the facts here given will suffice to show that disease of the vessels of the brain is even more closely associated with hypertrophy of the heart, than the latter is with disorganization of the kidney.

"The intimate connection thus apparently subsisting between sanguineous apoplexy on the one hand, and diseased cerebral vessels, enlarged heart, and renal disorganization on the other, as deduced from the foregoing analysis, will, perhaps, be best apprehended by viewing the result of this analysis in a kind of tabular form. The 22 cases of sanguineous apoplexy may then stand thus:

Cerebral Vessels.	Heart.	Kidneys.	
Diseased . . .	Diseased . . .	Diseased . . .	12 times.
" . . .	" . . .	Healthy . . .	3 "
Healthy . . .	" . . .	Diseased . . .	1 "
" . . .	Healthy . . .	" . . .	1 "
" . . .	" . . .	Healthy . . .	2 "
" . . .	Diseased . . .	" . . .	1 "
Diseased . . .	Healthy . . .	" . . .	2 "
			—
			22

"From this it appears that—

The cerebral vessels were diseased	17	times.
The heart	"	17 "
The kidneys	"	14 "

"It cannot but be evident from this impartial analysis of 22 fatal

cases of sanguineous apoplexy in which the different organs were carefully examined, that disease of the kidneys, heart, and cerebral vessels stand in very close relation to the apoplexy; and this relation is the more evident when it is borne in mind that in more than half of the cases, the kidneys, heart, and cerebral vessels, were found coincidently affected, while in only two cases was there absence of decided disease of any of these parts.

Such being the principal information yielded by an analysis of these cases, two questions seem naturally to be suggested by it: first, what relation do the renal, cardiac, and arterial diseases bear to each other? secondly, what share do they severally take in the production of apoplexy? As regards the relation subsisting between the renal, cardiac, and arterial disease in sanguineous apoplexy, I believe that the affection of the kidneys is the primary disease, and that the other lesions are developed secondarily, and in the order just indicated, viz., hypertrophy of the heart, disease of the cerebral arteries, and extravasation of blood from rupture of these diseased vessels. That structural disease of the kidneys, of such nature as to interfere permanently, or for long, with their functions, has among its most frequent and prominent accompaniments an hypertrophied condition of the left ventricle is, as already said, a fact now almost generally admitted by pathologists. Of the various explanations of this pathological fact, the most probable perhaps is that which regards the blood as so far altered from its normal constitution by retained principles of urinary excretion, as to move with less facility through the systemic capillaries, and thus to require increased pressure, and consequently increased muscular growth of the left ventricle, to effect its transmission. To this, perhaps, may be added, among other additional causes, the direct influence on the circulation, resulting from the impeded transit of blood through two such large and vascular organs as the kidneys, in consequence of the structural change which has taken place in them. On whatever cause, or set of causes, it may depend, however, hypertrophy of the left ventricle of the heart, in consequence of prolonged renal disease, may, I think, be regarded as a well-established fact: and to the affection of the kidneys, therefore, may be referred the enlargement of the heart found in 9 of the 13 cases of associated cardiac and renal affections in the analysis above given, and part of the enlargement noticed in the 4 cases where the valves were considerably diseased."

And again :

"Sanguineous apoplexy, when associated with advanced renal disease, may, I believe, be generally found dependent on rupture of one or more of the cerebral vessels, which have been weakened by structural changes in their coats; and it may, I think, be held that these changes in the coats, are principally induced by continued over-distension of the vessels, resulting from an hypertrophied state of the left ventricle, so commonly found in such cases; and lastly, that this enlargement of the left side of the heart when independent, as it often is, of valvular lesion, is the direct result of the renal disease. So that a primary structural lesion of the kidney may, in this manner, through the medium of the heart and cerebral vessels, which are secondarily

affected, ultimately result in an attack of sanguineous apoplexy, which but for such renal disease might never have occurred. * * * *

"In all cases, therefore, of apoplexy or hemiplegia, it is advisable to test the urine for albumen, for beyond the direct information thus afforded of the probable state of the kidneys, an albuminous condition of this secretion may serve to explain, in the absence of any valvular disease, the hypertrophied heart which so frequently coexists with the apoplexy."

ART. 30.—*On the disease called Insolatio, or Heat Apoplexy.*
By Mr. MARCUS G. HILL, Assistant-Garrison-Surgeon, Fort William.

(*Indian Annals*, Oct. 1855.)

The following extract will serve to explain the opinions which Mr. Hill is disposed to advocate in this long and elaborate paper :

"It seems to me," he says, "that there probably is a very close connection between these attacks of heat apoplexy and remittent fever, and there are indeed many good and substantive reasons for the assumption that it depends primarily upon a cause similar, if not identical, with that which excites remittent fever; nor do I think we wander far from the truth in supposing that it is due to precisely the same cause, and engendered by the same vagrant agency, though I am not forgetful that occasionally various and divergent forces seem to foster and give rise to it. But whilst willing to give due weight to these inexplicable circumstances, until we possess clearer views of, and know more definitely *all* of the sources of malaria—the possibility of its being wafted long distances, the actual period it may remain dormant in the system, its positive effect on the blood and other constituents of the body, and the peculiar constitutional state which alone creates the susceptibility to receive it in force—we cannot repudiate entirely this view, unless in the mean time we can alight on a more reasonable interpretation for the occurrence of the various concomitant phenomena. But whilst adopting this view of its origin, I do not mean to allege that all attacks of what is called *coup de soleil*, heat apoplexy, insolation, &c., can without difficulty be brought under this category, for I rather incline to the belief of there being a distinct set of cases occasionally taking place in hot weather, and put under one or other of these names or a synonym, which are apparently the result of no poison, but are from simple vital exhaustion, and that these cases, though springing from a different cause, also at their commencement somewhat different from those properly coming under the head above mentioned, may nevertheless in their subsequent progress assume symptoms quite analogous to those of remittent fever."

ART. 31.—*An analysis of 100 cases of Cephalalgia.*
By Dr. SIEVEKING, Assistant-Physician to St. Mary's Hospital.

(*Assoc. Med. Journ.*, Nov. 9 and 16, 1855.)

One result of this analysis is that these 100 cases may be arranged under the following divisions:

<i>Rheumatism.</i>	Cases 1, 2, 3, 13, 19, 24, 32, 44, 46, 54, 77, 81, 93	Total, 13.
<i>Congestion.</i>	Cases 4, 10, 11, 12, 17, 20, 29, 33, 36, 37, 39, 40, 42, 51, 56, 58, 59, 62, 63, 65, 70, 72, 95	„ 23.
<i>Dyspepsia.</i>	Cases 5, 34, 55, 69, 74, 76, 79, 91	„ 8.
<i>Tænia.</i>	Case 6	„ 1.
<i>Anæmia.</i>	Cases 8, 9, 18, 21, 25, 28, 50, 52, 61, 68, 75, 78, 87, 97, 98	„ 15.
<i>Hyperæsthesia.</i>	Cases 7, 14, 22, 26, 30, 41, 45, 48, 49, 57, 60, 64, 66, 73, 80, 82, 83, 84, 85, 94, 99	„ 21.
<i>Asthenia.</i>	Cases 15, 16, 71	„ 3.
<i>Epileptiform.</i>	Cases 23, 27	„ 2.
<i>Catarrh.</i>	Cases 31, 88	„ 2.
<i>Syphilis.</i>	Cases 35, 43	„ 2.
<i>Intracranial Irritation (organic).</i>	Cases 38, 86	„ 2.
<i>Scrophulosis.</i>	Cases 47, 89	„ 2.
<i>Hæmorrhoids.</i>	Case 53	„ 1.
<i>Lithiasis.</i>	Cases 67, 100	„ 2.
<i>Morbus Cordis.</i>	Case 90	„ 1.
<i>Amenorrhœa.</i>	Case 92	„ 1.
<i>Dysmenorrhœa.</i>	Case 96	„ 1.

ART. 32.—*The dependence of Facial Neuralgia upon Dental disease.*
By Mr. CLENDON, Surgeon-Dentist to the Westminster Hospital.

(*Assoc. Med. Journ.*, March 29, 1856.)

In the introductory lecture to his course of lectures on Dental Surgery at the Westminster Hospital, Mr. Clendon says (and we would call particular attention to his remarks)—

“ Patients will complain to you of rheumatic pains in the face, of deep-seated pain in the jaw, extending to the orbit and temple, or to the ear; of pain, not in one tooth only, but ‘in all the teeth;’ of tic douloureux; of anything, in short, rather than admit the probable cause—a diseased tooth. In this, as in their history of cases generally, patients are not to be implicitly relied on; there is a natural tendency to magnify their sufferings, and they also deceive themselves, from an unwillingness to admit an unpalatable truth. Before you proceed to administer medicine in such cases, you must satisfy yourselves as to the condition of the teeth and gums. The patient will, of course, contend that the pain does not proceed from a tooth, and a cursory examination might possibly lead you to the same conclusion. But, you must remember, a tooth may not necessarily be decayed to occasion severe pain; some change may be taking place in the condition of its periosteum; there may be deposit of bone in the alveolus, displacing the tooth, or causing a corresponding absorption of its roots, or there may be ossific deposit on the root itself; either of these conditions is sufficient to give rise to the most painful and distressing symptoms, which may extend over a period of several years. Sometimes the pain is caused by the presence of a minute portion of root broken off from a tooth, deeply seated in the gum, and

long since forgotten. Owing, perhaps, to the absorption of the alveolus, in which it hitherto quietly lay embedded, this being set free, may be slowly working its way to the surface, and giving rise to occasional paroxysms of the most acute character. In such cases, it is evident medicine is useless, and consequently injurious; relief can only be afforded by the removal of the tooth or root, which a careful and peculiar mode of examination—familiar to those who practise this branch of the profession—will alone enable you to detect. These occasional paroxysms in the face and jaws are not inaptly termed *tic dououreux*. Although a very fashionable complaint, it is by no means confined to the higher ranks; you will meet with it daily in every class of society. The pain arising from diseases of this character is sometimes so intense, and its cause so obscure, that patients naturally incline to give to their own sufferings the name which expresses at once the most acute and, as it seems to them, the most mysterious form of all such maladies. But when I tell you that in a tolerably wide field of observation, public and private, during a period of twenty years, I have only met with three or four cases of true idiopathic facial neuralgia—that is, neuralgia which would not yield to purely local treatment—you will at once perceive the necessity for a careful examination to satisfy yourselves most fully on this point, before you proceed to subject your patient to a course of medicine.”

ART. 33.—*Paralysis of the Motor Nerves in Neuralgic Affections.*
By Dr. C. HANDFIELD JONES, Assistant-Physician to St. Mary's Hospital.

(*Lancet*, Oct. 20, 1855.)

“Dr. Macculloch,” says Dr. Jones, “is almost the only writer that I am acquainted with who distinctly states that paralysis is a mode of neuralgic disease. He considers that the action of malaria on the nervous system is essentially debilitating and prostrating, tending to produce numbness of sensory nerves, palsy of motor, and fatuity or mental debility when it affects the brain. Of the general correctness of his opinions I feel strongly convinced, although it must be admitted that the conclusion that the disorder is dependent upon malaria as an exciting cause is rather matter of inference than of demonstration in many cases. The recognition of the fact, that impairment of motor power may be owing to the cause just mentioned, seems to me so important that I offer the following histories in illustration.”

CASE 1.—R. B.—, æt. 65, male, labourer, admitted June 18th. Had been ill three or four days. Is stout and healthy-looking; not subject to rheumatism; says he has lost the use of his right hand, can hardly grasp at all with it; the parts supplied by the median nerve are numb, but never in pain; has some stiffness extending up to the elbow; glands in the axilla not enlarged; the affection came on suddenly; no pain in the head; no giddiness; pulse large and full; skin warm; tongue large, moist, with long white papillæ; urine natural. His condition appeared so decidedly sthenic, that although I was much inclined to regard the disorder as of neuralgic character, I thought it prudent to test, as it were, the system I had to deal with by other agents,

before administering the usual remedies for neuralgia. I gave him, therefore, bichloride of mercury, one eighth of a grain; nitrate of potass, ten grains; compound infusion of gentian, one ounce, three times a day.

June 25th.—Reports that he can close his hand better, but it feels stiff and numb; head rather giddy this morning; tongue large, quite clean, and moist. He feels the debility of the muscles of the forearm in the hand. I now thought I might venture upon tonics, and gave him citrate of iron and quinine, five grains; water, one ounce, three times a day. On this treatment—the iron and quinine being increased after a fortnight to eight grains—he improved steadily, and was discharged July 23d, having almost completely regained the power of his hand, as well as its sensibility. He said that at one time it had been so weak he could not use a knife or pen. Such a case as this illustrates very well M. Trousseau's remark, that “*l'issue du traitement fait connaître la nature des maladies.*” Suppose cupping, blistering, and purging had been employed, would the result have been so favorable? His age, habit, and symptoms might well, however, inspire suspicions that the disease was of cerebral origin, and that an apoplectic attack was threatening.

CASE 2.—Is. E—, æt. 50, female, married, one child. Has been ill since Christmas; admitted March 22d; of short stature; complains of numbness and weakness of both arms, of the right especially; the arm, forearm, and hand are all affected; has pain mostly in the arms, and numbness in the hands; cannot scrub, or use her hands in anything that requires strength; is not worse at night; skin cool; pulse rather weak; digestion good; bowels regular; tongue clean; no catamenia for nine years; has much soreness in an old blistered spot on the right arm. Moderate doses of quinine and iron were given up to May 3d, conjoined at one time with tincture of Indian hemp, and at another with belladonna; but very little ground was gained. For the next two weeks she took ten grains of citrate of iron and quinine, with five grains of citric acid thrice daily, but at the end of the week after (medicine having been omitted one week), she complained that her arm was weaker, and all her limbs. I then began to give her larger doses of quinine (or cinchonine, which is supplied to out-patients), at first eight grains three times a day, and afterwards twelve grains. Under this she improved very much. By July 12th her arms were much stronger, and felt much less numb. I then gave her arsenite of iron, one eighth of a grain, with Phosph. Amorph., one grain, to be made into a pill, and taken three times a day, which she did until August 23d, when she was discharged almost well, able to do needlework, or pick up a pin. There can be no question that this was a severe affection of the peripheral nerves, of a neuralgic character, and it is manifest that paralysis of the motor nerves was quite as prominent a feature of the disorder as pain, or numbness of the sensory. Large doses of cinchonine seemed to be most efficient in obtaining the cure; I have little doubt that still larger doses, and preferably of sulphate of quinine, would have produced more speedy benefit.

A circumstance which seems to me to invest with especial interest the occurrence of paralysis as a result of neuralgia is, that the heart itself is not very unfrequently the seat of a similar affection. I have been informed of the case of a man, who suffered from tertian ague, commencing with deadly faintings. I have seen a case in which attacks of syncope, apparently depending upon the action of malaria, were so severe as to cause much alarm. Patients convalescent from the Crimean fever are liable to attacks of a similar nature, sometimes so severe and so easily brought on, as to incapacitate the sufferers from performing their military duties. An officer, who

laboured under this form of neuralgia in a moderate degree, described it to me as "a sense of dead weight at the heart," attended with a feeling of exhaustion, and some failure of pulse, to relieve which he was obliged to take ether or wine; it came on every second day or thereabouts, and was especially induced by any painful emotion or agitation, but not by cheerful exercise. Dr. Macculloch has noticed particularly *neuralgia of the heart* manifesting itself by palpitation, and also by paralysis more or less severe. In one case of this kind "the suffering was extreme, even frightful, as the sensation was always that of imminent or immediate death, and of death which nothing but a strong exertion both of the mind and body could have prevented."

ART. 34.—*On Atrophy of the Brain; with cases in which there were remarkable inequalities of the cerebral hemispheres, attended with hemiplegia, and contraction of the limb on the side opposite the atrophied hemisphere.* By ROBERT BOYD, M.D., F.R.C.P., Physician to the Somerset County Lunatic Asylum.

(*Lancet*, Jan. 19, 1856.)

The author commences this paper by alluding to the remarks of different writers, ancient and modern, on atrophy of the brain, more especially to Otto, Cazawvieth, Andral, and Cruveilhier, as well as to papers previously published by himself in the 'Edinburgh Medical and Surgical Journal,' and he then refers to various cases of atrophy which have since fallen under his notice. Of the whole of the cases referred to as having been observed by himself, he states that 33 were males, and 31 females; one male only was below 30 years of age, and of the other males, one half were between 30 and 60 years of age, and the remainder above that age, the oldest being 84. The youngest female was 32; 12 were under 60, 18 above, and the oldest 98. The average weight of the brain in the males was $43\frac{1}{2}$ oz.; in the females, $39\frac{3}{4}$ oz. The smallest brain in the males was $30\frac{1}{2}$ oz.; in the females, $27\frac{1}{2}$ oz. The largest in the males was $52\frac{1}{2}$ oz., and in the females, $50\frac{1}{4}$ oz. Atrophy of the brain occurred in about $4\frac{1}{4}$ per cent. of the cases examined by Dr. Boyd at the St. Marylebone Infirmary. In the insane he had found it at least twice as frequent, and males of this class are very much more subject to it than females. Inequality in size between the cerebral hemispheres is common in epileptics. In 31 cases in the insane (21 males and 10 females), there was a difference of one ounce between the cerebral hemispheres in 7 males and 4 females; of $1\frac{1}{4}$ oz. in 1 male; of $1\frac{1}{2}$ oz. in 5 males and 4 females; of $1\frac{3}{4}$ oz. in 2 males and 1 female; of 2 oz. in 1 male; of $2\frac{1}{4}$ oz. in 1 male; of $2\frac{1}{2}$ oz. in 1 male and 1 female; and of 3 oz., 4 oz., and 6 oz., in 1 male each; and in these cases there was either general paralysis, epilepsy, hemiplegia, with contraction of the limbs on the side of the body opposite to the atrophied hemisphere. The average weight of the brain in the 21 insane males was $45\frac{1}{2}$ oz.; in the 10 insane females, $41\frac{1}{4}$ oz. In 10 males and 4 females, the atrophy was of the right cerebral hemisphere, and in 9 males and 5 females, of the left. In 1 male and 1 female, the atrophy was general, and in 1 male, local, being confined to the optic nerve. Dr. Boyd also states, that amongst 32 male and 33 female

epileptics, at present in the asylum, there are 4 strongly marked cases of hemiplegia and contraction of the limbs, and in 1 there is a manifest depression of the cranium, on the side opposite the paralysed one. He concludes the paper by briefly describing the particulars of these cases.

ART. 35.—*A case of "Paralysie musculaire progressive."*
By M. T. VALENTINE.

(*Prager Vierteljahrssch. für die Prakt. Heilk.*, 1855; p. 46.)

In this case the anterior roots of the spinal nerves were atrophied in the manner which M. Cruveilhier has described, and, in addition to this (which is the novel feature of the case), there was marked disease of the cord in the parts adjacent. The symptoms and the muscular changes do not differ in any respect from those which were observed by MM. Cruveilhier, Aran, Duchenne, Niepce, &c.

CASE.—The patient, æt. 45, was a man living in respectable circumstances. During two years the symptoms of the disorder had been making progress—feebleness and emaciation, commencing in the hands and extending eventually to the inferior limb,—tremulous movements, and then loss of all irritability, even under the influence of galvanism: and last of all, difficulty of speech and swallowing. Symptoms of slight bronchitis showed themselves before death.

After death the muscles were found in every stage of fatty degeneration. The anterior roots of the spinal nerves were all smaller than the posterior roots, in the proportion of about one to six, and they were softer and redder as well as smaller. These changes were most marked in the inferior part of the cervical region, and in the superior part of the dorsal. Examined microscopically there were evident signs of fatty degeneration, which were not present in the posterior roots.

In the region where the roots were most atrophied, the membranes of the cord were thickened, as by old inflammation; and the cord, where it corresponded to the last three cervical vertebræ, and to the first four dorsal, was manifestly softer in its centre, and contained more granular bodies than were met with elsewhere.

It is to be regretted that the microscopical symptoms are not given with any exactness.

ART. 36.—*Analysis of one hundred and thirty-one cases of Hydrophobia.*
By Dr. J. LEWIS SMITH, Physician to the N. W. Dispensary at New York.

(*New York Journal of Medicine*, Sept. 1855, Jan. 1856.)

This analysis is appended to a case which recently fell under the notice of the author. Much care and labour has been expended upon it, and, so far as we can see, the results are fully confirmatory of the generally received opinions upon the subject.

ART. 37.—*The etiology and treatment of Epilepsy.*
By Dr. HENRY HUNT.

(*Medical Times and Gazette*, Jan. 26, Feb. 9, March 1, and March 22, 1856.)

The theory which Dr. Hunt is disposed to uphold in these papers will appear in the following remarks, which are comments upon his first case :

“ The primary cause of all the symptoms was a suspension, more or less complete, of the secretion of bile ; and as bile contains, in its normal state, ‘ a considerable proportion of soda, in some very loose state of combination’ (Prout), it follows that, when the functions of the liver were interrupted, an accumulation of an undue quantity of soda must have taken place in the blood. We may therefore infer, that the blood in the preceding case contained an excess of that ingredient of the bile.

“ Now, according to Dr. Prout, whose accuracy of observation and skill in researches of animal chemistry are rarely questioned, it appears that an excess of soda or potash in the blood, which he calls ‘ the soluble incidental matters,’ acts on the nervous system in a very deleterious manner, and he alludes to this subject in several places in the third edition of his work on ‘ Stomach and Renal Diseases,’ but quite irrespective of the disease we are considering.

“ He writes at page 280 : ‘ The constitutional symptoms accompanying the various forms of urinary disorder now under consideration (those connected with the soluble incidental matters, soda and potash) partake of the characters of those accompanying the deposition of the phosphates, viz., nervous irritability displayed in various ways according to the idiosyncracy of the patient. In some individuals it assumes the form of spasm of the respiratory muscles,’ and other spasmodic affections. At page 223 he says : ‘ There are some individuals who cannot take alkalies in any form. The peculiar effects produced by them were great nervous disturbance, particularly of the *cerebral functions*. In one gentleman the excitement produced by alkalies was so great as to border on delirium or mania. They seemed to act like a poison, and there was reason to believe, from the effects produced, that if their use were persisted in they would even lead to a fatal termination.’ Again, at page 224 : ‘ The effect of alkalies at all times in large doses, and administered at improper times, is injurious to the system’—(they) ‘ produce serious disorder of the nervous system ;’ and it is worthy of remark, that the fits in the case I have related were much increased, both in severity and frequency, during the administration of the bicarbonate of soda and sulphate of magnesia.’

“ If the correctness of Dr. Prout’s observation be admitted, that an excess of soda or potash in the blood acts so injuriously on the nervous system, the next step is to inquire what is their *modus operandi*. To explain this point I shall again refer to the same authority, who states that, ‘ In certain habits and under certain circumstances, they (the alkalies) occasion a deposition of the phosphates in the urine ;’ at page 270, ‘ The long-continued use or abuse of alkaline remedies will, in irritable habits, likewise produce a tendency to an excess of the phos-

phates in general ;' and at 312, ' The presence of magnesia (the phosphate of) in the urine is supposed to indicate destruction or mal-assimilation of a tissue intimately connected with the nervous tissues,' ' and the presence of phosphorus and its compounds to denote the destruction of the nervous tissues.'

" These disjointed remarks of Dr. Prout, when brought together, appear to have a very important bearing on the subject before us ; and if their correctness be admitted, and they are taken in conjunction with those before quoted, they seem to offer a plausible answer to the question, how a predisposition to epilepsy may be produced ; for we may reasonably infer—indeed, it seems to follow, almost as a necessary sequence—that if an abnormal excess of alkali in the blood causes the deposition of the phosphates in the urine, and the phosphates are derived from the disintegration of the nervous tissues, or, as it has been recently suggested, of the phosphoric oil, of which the brain is partly composed, the alkalies produce this effect by acting on those tissues, as they are known to do on the other living solids, by promoting their softening and absorption ; and it is impossible that such a destructive process can take place, even to a limited extent, in the brain, spinal cord, or other nervous bodies, without exciting irritation, enfeebling their tone, and rendering them incapable of resisting the morbid influence of exciting causes of diseases. The post-mortem examination of the brains of epileptics somewhat tends to support the correctness of this hypothesis ; for in a large number of cases the brains of epileptic subjects are found so softened, that it is impossible to strip off the investing membranes, without tearing away portions of the gray substance with them ; while in other cases they are evidently shrunk and diminished in volume, and, although, in many instances, the epileptic brain is found to be firmer than natural, this may probably be the effect of the absorption of the softer, fluid, or oily portions of the nerve matter, which would necessarily cause the remainder to be relatively firmer than natural—a state equally abnormal and noxious to exciting causes of disease."

Again :

" It is also probable that a great excess of alkali may prevent certain normal changes among the various ingredients in the blood, which are necessary for the elimination of some of the noxious matters generated by, or derived from, the natural disintegration of the tissues of the body—the cyanide of ammonia, urea, for example. In confirmation of this hypothesis, I will quote a passage from the introduction to the work of Dr. Prout, so often referred to. In treating of urea, he says, ' Alkalies scarcely affect urea at low temperatures ; but, when assisted by heat, they rapidly convert it (together with water) into carbonate of ammonia.' It is, therefore, a fair inference, that if alkalies decompose urea when formed, they will also prevent its elements combining so as to form it ; an idea that is strengthened by the fact asserted by Dr. Prout, ' that the quantity of urea in the urine (of persons in whose blood there is an undue amount of alkali) is usually deficient, while the quantity of soda and ammonia is in excess.'

" These are points of great interest in investigating the causes of epilepsy, because in whatever form the elements of urea, especially

the noxious ingredient cyanogen, may enter, they will, if retained in the system, probably account for many of the symptoms from which epileptics suffer so much, if not for the epileptic convulsion itself; for it is more than probable that when cyanogen or a cyanide has accumulated to a certain extent, it will act on the brain and spinal cord as it does in the form of hydrocyanic acid, which, according to Dr. Pereira, 'when given in large doses, but not sufficient to cause instant death, occasions convulsions'; and it would be likely, in smaller quantities, to produce those transient nervous symptoms, sudden faintness, momentary loss of consciousness, and those feelings of undefined terror and want of self-confidence so conspicuous in epileptics, especially as the period of a recurrence of fits approaches, and which, together with feelings of general nervous irritability, progressively increase up to the moment of the convulsion, and usually subside after the fit: as if the cause, whether it be a *materies morbi* or not, having accumulated so as to produce an attack, is expended during the violent muscular and nervous action which constitutes a fit."

In this way Dr. Hunt is led to think that acids will be found to be important agents in the treatment of epilepsy, and he relates seven cases, of which we give two, in which this treatment seems to have been more or less successful.

CASE 5.—M. C., æt. 11, was brought to me in September, 1853. He had been afflicted with epilepsy about two years. The first fit occurred at school, where he had been insufficiently nourished. It was attributed to a fright occasioned by a trick played on him by his schoolfellows. He was naturally quick and intelligent, but a sensitive child. Some time before the first fit he appeared dull, and unable to learn his lessons as well or as easily as he had been accustomed to do, and also to be unusually fearful. When I saw him he was pale and delicate, and his complexion presented the same transparency as in the preceding cases. He was very nervous and fearful, and showed evident terror at the idea of being left alone. His tongue was clean, his pulse quick and small, his eyes of a pearly whiteness. The bowels rather confined. The discharges were described as being pale, and the urine also pale, as well as clear. I prescribed the acid bath, and the internal use of the nitro-muriatic acid, and a sufficient quantity of an electuary, composed of equal quantities of sulphur, bitartrate of potash, and syrup of ginger, to regulate the bowels.

The child was brought to me again at the end of a month, when I learnt that he had a fit a few days after his first visit, but none afterwards. He appeared stronger, and much less nervous and timid; and he allowed himself to be left alone for a few minutes without hesitation. I recommended a steady use of the same treatment, and that he should spend as much time as possible in out-door exercise, and that lessons of every kind should be strictly avoided. I did not see this patient again, but I was informed that the treatment had been so successful, and had apparently effected so complete a cure, that his parents thought they might safely send him to school after the Christmas vacation. They did so, and he appeared to bear his work pretty well for a few weeks; he then began to feel confused, and soon afterwards he had a violent fit, in which he died.

This case, however, showed the power of these remedies to correct the state of the system on which the epilepsy depended; not only by the cessation of the fits, but by the removal of that morbid nervous terror from which epileptics so frequently suffer; and I think we may assume, judging from the other

cases, that if the treatment had been continued longer, and more time had been allowed for the brain to recover strength before the intellectual faculties were again exerted, the epilepsy would have been permanently cured, and the child's life preserved.

CASE 6.—Miss L., æt. 56, had suffered for six years from dizziness, which generally came on walking out immediately after breakfast, sometimes so suddenly that there was neither time to return to the house, nor to sit down, before she would fall to the ground insensible, and on three occasions she remained unconscious for an hour and a quarter. I saw her in July, 1853. She was then slightly jaundiced; the tongue foul; the pulse feeble; the evacuations pale, sometimes nearly white; the urine pale and clear. I prescribed a course of saline aperients, with an occasional dose of Pil. Hydrarg. and Pil. Rhei Comp. Under this treatment she became much worse, especially as to the dizziness and faintings. She consequently again came to town in September, 1853, with a friend, from whose description I found that the faintness and other nervous symptoms, which I had supposed arose from bile, were epileptic. The urine was then examined, and was found to contain an inordinate quantity of the chloride of sodium (which, in the specimen analysed, may have been partly derived from the soda given in her medicine), and less than a normal amount of urea, and there was a considerable quantity of the phosphates; specific gravity 1.020.

I prescribed the nitro-muriatic acid internally, and a dose of the compound rhubarb pill every other night. This plan was persisted in for six weeks; at the expiration of that time she appeared to have been restored to the same state as she was in before I first saw her. I then advised the acid sponging twice a day, and the drinking of strong lemonade, with a glass of sherry in it, both for luncheon and dinner, in addition to the internal use of the nitro-muriatic acid. The effect of this treatment was immediate and striking. She soon perceived a manifest improvement in her general feelings, as if more nervous vigour had been given her. The attacks of dizziness were evidently lessened. At the expiration of two months, she wrote me, that the dizziness had subsided altogether, and that she had not had a fit since she commenced the sponging. She further wrote, that she could not describe the improved state of her nerves better than by saying she had more the feelings of health than she had experienced for several years. She continued to use the acids for several months without interruption, and up to this time, February, 1856, she has remained perfectly well, although she has been exposed to severe affliction since her recovery.

ART. 38.—*Cases of Epilepsy.*

By Dr. RADCLIFFE, Assistant-Physician to the Westminster Hospital.

(*Medical Times and Gazette*, March 29, April 5, April 19, and May, 1856.)

These cases were related in some lectures which were delivered at the Westminster Hospital about three months ago. They exemplify, as it seems, the beneficial effects of a stimulant plan of treatment in this affection.

CASE 1.—Miss Henrietta W—, æt. 17.

The subject of distinct epilepsy for seven years. When a very young infant she had several attacks of convulsion, which were supposed to be dependent upon water on the brain. The first epileptic fit occurred at school, after having been frightened by a cow in the earlier part of the day.

Before this time her health had been gradually failing,—failing, there is reason to believe, from the stingy dietetic arrangements of the school at which she was staying. After this time the fits recurred with considerable regularity at intervals of a month. The menses were established about two years ago without any sensible effect upon the fits. According to the aunt with whom Miss W— lives, there is much hysteria mixed up with the case, and the fits themselves are often of an hysterical, rather than an epileptic character. The patient has never taken any stimulants.

November 17th, 1849.—Short and square built. Head somewhat large, forehead receding; eyes very prominent; pupils dilated, but not very sluggish. Expression of countenance sour, but not stupid. The memory not very defective, but very wanting in the power of application. Will often have fits of crying and sobbing for hours together, particularly after having had a long walk. Hands and feet constantly cold; pulse very small and weak, 72. The appetite fitful, but not defective upon the whole. The tongue has been bitten several times. The aunt states that the fits occur now about the third day of the menstrual period, and generally in the night, and that the face is usually much discoloured. Sometimes, but not always, there is foam at the mouth.

Ordered to be kept quiet and to be sent to bed early; to have an egg beat up in a glass of port wine at eleven o'clock every morning, and a glass of wine shortly before going to bed at night; to discontinue all studies for the present, and to take, three times a day, two table-spoonfuls of the following mixture:

R Ferri Ammonio-citratis, 3j;
Ætheris Chlorici, 3ij;
Aquæ Distillatae, 3vij. M.

29th—Much quieter, and in every respect better. No fit. No alteration in the treatment.

December 16th.—Three nights ago, about the usual time, a fit occurred in the night. This was very brief, and there was little depression and irritability the next day. The patient is stouter than she was, and she now eats with an appetite. Her countenance is more animated, and of a better colour. No alteration in the treatment.

February 14th, 1850.—Until last night she went on very well, and then she had a fit of considerable severity after coming in from a long walk. This was two days after the completion of the menstrual process. This morning she is evidently depressed, and yawns very much. Her pupil, also, is considerably dilated. For the last three weeks, the medicine has not been given with any regularity, and she has been in the daily habit of taking long walks. She is growing very fast.

Ordered not to tire herself by walking, and not to neglect taking the mixture for the present. Ordered also to have a glass of wine or porter with her dinner.

March 16th.—Decidedly better. No fit since the last visit. During the last three or four weeks she has been a very persevering student at the piano, and this must be taken as a very considerable evidence of improvement, for when she was first put under treatment she had no power or no disposition to apply herself to this or any other pursuit. No alteration in the treatment.

June 12th.—No fit since the last visit, and a marked improvement in every other respect.

— This patient went abroad shortly after this time, and I saw her no more. Twelve months later, however, I learnt that her health continued to improve, and that she had had no fits; and a year after this time, when I lost all traces of her, I have reason to believe that she was still without the fits, and well.

CASE 2.—Mr. William C—, æt. 19.

The subject of marked epilepsy for six years. When sixteen he had formed an improper connexion with a young woman which ended in her pregnancy, and besides this, he had been guilty of other practices of an equally reprehensible character; and since this time there has been no material reformation in his habits in these respects. At first the fits occurred at wide intervals, but lately they have been of almost daily recurrence.

January 4th, 1850.—His appearance indicates great exhaustion. He is tall and thin, and very pale, perspiring profusely on the least exertion, and suffering from almost constant toothache and headache. He abstains, and always has abstained from alcoholic drinks, but he indemnifies himself by smoking excessively—even before getting out of bed in the morning. His memory, he says, is very bad, and he cannot bear the least contradiction. His fits occur generally at night. He dines in the middle of the day, and takes no meal of any moment afterwards. Often he lies awake half the night. The pulse is very feeble, 72. The hand is cold and clammy. The pupil is sluggish and dilated.

Ordered to be steady, to live more freely, to take more animal food, and make a good supper of one kind or another; to take a quart bottle of Guinness's stout in the course of the day, reserving the last glass for supper; to smoke less; to go to bed at half-past nine, and to take the following draught three times a day:

R M. Ferri Comp., $\frac{3}{4}$ j;
 $\text{Ætheris Chlorici, } \mathfrak{M} \text{ xx.}$

21st.—Much better. His appetite improved, and his sleep much sounder. The fits, however, have recurred every other day, and yesterday he had one of considerable violence. No alteration in the treatment.

February 8th.—Evidently improved. No fit for three successive days, and suffers now much less than he did formerly from toothache and headache. To continue as before.

21st.—Still improving. Has had three fits since the last visit. Appetite greatly improved. Pulse 70, a little stronger. Wakes frequently at night with cramp in his legs. He complains of feeling low and depressed in consequence of having given up (spontaneously) smoking. For three or four nights he has had a good deal of headache in bed. He proposes to go to Hastings for three or four months. Recommended him to sleep with his head upon a lower pillow, and to raise the head of the bed a little, so that the blood might gravitate into his legs, and prevent the cramp; but no alteration in other respects.

May 9th.—He has been at Hastings since the last visit, and is evidently much benefited by the change. He is both stouter and stronger, and he now suffers very rarely from headache. During the whole of his stay on the coast he only had three fits; and two of these, he thinks, were brought on by ascending the Castle Hill three times in the course of the same day. He has been taking no medicine during the last month, and he thinks himself not so well without it, though he has been taking wine in addition to the porter. He says that the wine and porter have the effect of making him less irritable and despondent than he used to be, and that he can now apply himself to reading without any great effort, which was not the case formerly. His mother's brother, it appears, was insane; and insanity, he thinks, may be his own fate, except he can get something to occupy his mind. At times he is much teased with flatulency. He was ordered to take $\mathfrak{M} \text{ xxx}$ of naphtha suspended in pepper-

mint water, with a little mucilage, and to repeat the dose three times a day. No other alteration.

18th.—The medicine agrees very well. No fit since the last visit. The dose of naphtha increased from M_{XXX} to M_{XL} .

September 10th.—He has been in Scotland since May last, and during the whole of this time he had only one fit. Several times he had threatenings, but he succeeded in averting the fits by smelling at a bottle of salts which he carried in his pocket, or by taking a glass of wine if he had the opportunity. The fit which did happen appears to have been caused in the main by his having been kept waiting for food for some hours beyond the accustomed time, and then by being very sick in crossing a ferry. It was very violent, but he awoke almost immediately afterwards, and the next morning he felt comparatively well. His whole appearance is more satisfactory, but the expression of his countenance is jaded, and his pulse weak. He says, that when in Scotland, he generally took a glass of whiskey and water in the evening, and that he found no harm from the practice. He has again begun to smoke. He took the naphtha for two months.

October 14th.—No fit. Improved in general health. His memory, he says, now serves him very well, and it now requires more provocation to rouse his temper. He was desired to return to the naphtha for a short time.

December 1st.—This afternoon I was sent for to visit him at his home, and found him much worse. Three days ago, while amusing himself with joinering, he had plunged a sharp chisel into the palm of his hand, and lost a considerable quantity of blood before help could be obtained. The night following he had a fit during sleep, and again on the next night. He is now suffering from great mental depression and headache. I recommended him to take nourishment and wine, to be quiet, and to take an ounce of Griffith's mixture with half a drachm of chloric ether every four hours.

2d.—He is much relieved. No fit since the last visit.

4th.—He had a fit in the night, and now feels very much depressed. Ordered to take naphtha, M_{XXX} , in a little peppermint water, every four hours.

12th.—He has been going about for the last three or four days, and he has now recovered his spirits and appetite. No fit since the 4th, and little or no headache. No alteration in the treatment.

January 8th, 1851.—Improving. Still no fit. No alteration in the treatment.

— August 15th, 1854.—To-day I have learnt, that very shortly after I saw Mr. Wm. C— last, he went out to act as a clerk in the office of a relative, a merchant in Calcutta; and that, upon the whole, he had had very good health. I could not learn any particulars, but my informant told me that my patient very rarely had a fit now, and that he was quite equal to all the duties which devolved upon him.

CASE 3.—Captain —, æt. 34.

For some years this gentleman was a "hard liver," and much addicted to very dissolute courses; but his health did not suffer, except in trivial matters, until about three years ago. The first sign of disorder was a fainting fit. This happened on parade on a hot summer day. About three months afterwards he fainted again. About this time he occasionally awoke with headache, and once his tongue was sore. Six months after the first fainting fit, he had a fit, in which he was convulsed and dark in the face. This was in a brothel. During the twelve months following he had three such fits, two of them under similar circumstances to those in which the last had happened, and one after a long and fatiguing walk on a very hot day. After this last fit he for

the first time submitted to medical advice, which advice was to leave off his dissolute courses, to abstain from wine and spirits, to take less animal food, and to take regular walking exercise daily. He persevered in this treatment without any benefit. On the contrary, he became weaker and more dispirited, and he had several (he does not recollect the number) fits, fainting and others. After this he was urged by his comrades, the officers in one of Her Majesty's cavalry regiments, to return to the ordinary practices of the mess, and from this time, he says, he began to improve.

January 7th, 1850.—Slight made and rather tall. Complexion sallow and somewhat congested, particularly about the under eyelids. Pupil somewhat sluggish and dilated. Expression jaded. Pulse 58, weak. His memory, he says, was never good, but he does not think it is worse now than it was before he became subject to the fits. He further says, that the only change he can notice in himself is, that he is more easily "put out," and not quite so "plucky." When out with the hounds he "thinks" before putting his horse at a fence. His appetite is not amiss. He often makes large quantities of pale urine, and not unfrequently he is greatly teased with flatulence, particularly when he smokes.

I recommended him to take more animal and less vegetable food, with, at least, an average amount of wine and alcoholic drinks—to leave off smoking, or else to smoke very mild tobacco—to adhere to the strictest rules of celibacy—to go to bed early—and to take, three times a day, a pill, containing one grain of quinine and two grains of camphor.

February 12th.—He has had no fit since the last visit, and his countenance appears a little more cheerful than it did. There has also been much less flatulence. He has gone to bed early, and this is the only part of the treatment to which he objects. No alteration in the treatment.

March 25th.—Captain — went on well up to a fortnight ago, when he had a severe attack of diarrhoea, brought on, he thinks, by a stale lobster salad. This was eaten late at night at an evening party. This diarrhoea continued about twenty-four hours; and during this time he took little or no food, and nothing of a stimulating character. The day following he walked about three miles to see a friend, and then walked back again, and immediately upon his return he fell upon the dining-room floor in a fit. This dispirited him very much, and he had no dinner except a little soup. In the course of the evening he had another fit; and on the day after the next, he had another. At present he is far from having recovered, and he complains a good deal of flatulence and headache. He was recommended to continue his pills; and to take occasionally, in a little water, a small tea-spoonful of a mixture, consisting of equal parts of chloric ether and sal volatile.

April 21st.—Since the last visit he has progressed favorably, and he is now in very good spirits. No fit as yet. No alteration in the treatment.

May 6th.—No material alteration. No fit. The same treatment continued.

July 19th.—He progressed favorably, without any fits, until a week ago, when he had one. This was followed neither by headache nor sleep, and four or five hours afterwards he went out to dine. He says that he cannot account for this fit, but that for a few days previously his appetite had not been quite so good as usual, and that he had been much teased with flatulence. The tongue is at present disposed to be dryish, and there is a little thirst. Ordered to have a grain of compound rhubarb pill added to the pills he is taking, and to go on as before.

September 14th.—He looks to-day much better and stronger than he was when seen last, and there has been no return of the fits. He has just returned from a few days' partridge-shooting, and he says that he enjoyed his sport

very much. Returning home one night he felt excessively tired and depressed, and he thought he should have a fit, but after dinner and a few glasses of wine he felt better. On this day he had forgotten to take any means of refreshment with him. He now thinks he is well enough to dispense with any more medicine.

December 5th.—The improvement noticed at the last visit still continues. The fits are still absent. Six weeks ago, he says he was troubled with headache and irritability, and these symptoms caused him to return for a few days to the pills and drops, and this was all. The pupil is certainly very much less sluggish and dilated than it was at first.

— This was the last time I saw or heard of this gentleman.

CASE 4.—Mr. William H—, æt. 37.

The subject of epileptic fits for five years. Lately the fits have recurred as frequently as one a month, and generally with considerable regularity; but formerly they were separated by much wider intervals. The first fit occurred in the neighbourhood of Calcutta, where he had been living for ten years. He never enjoyed good health in India, and more than once he nearly lost his life from dysentery. He had also suffered from three distinct attacks of remittent fever, and for six months preceding the first fit he had marked symptoms of tertian ague. The first fit occurred in the open air on a very hot morning; but he does not think that he had been at all exposed to the direct action of the sun. For this he was bled twice. The week following he had another fit, when he was bled again. No purgatives were given him, for his bowels were then in a very loose state, but he was kept upon a very low diet for three or four weeks, and all stimulants were distinctly forbidden. During the next two months he had several fits, and at the end of this time, finding himself much weaker, he resolved to return to England. The voyage home, which was by the Cape, did him much good, and at its conclusion he felt much stronger. He had four fits while at sea, all in the night.

March 3d, 1850.—He has been in England about a fortnight, and feels the cold very much. He is short and well made, except that the head is perhaps a little larger than it ought to be. His countenance is somewhat wanting in expression, and his complexion is very sallow and much tanned by an Indian sun. There is no decidedly epileptic expression, and no epileptic petechiae about the eyelids. The pupil is somewhat dilated and sluggish. The hand is cold, and he complains much of cold feet. In the night he had, for the first time for several months, a distinct attack of aguish rigor, followed with heat and thirst; but now his pulse is weak and slow (69). At the present moment he is suffering from what he says is a very common symptom—headache. The bowels are at present somewhat sluggish, and they have been in this state for four or five weeks; he complains, also, of a little dull pain in the right side and shoulder; but there are no other perceptible evidences of biliary derangement. The appetite is very defective, and there is no thirst. On the voyage home he was recommended by the captain to resume his former habits in the matter of stimulants; and after this time he always took wine or ale, or both, at dinner, and ended the day with a glass of warm whiskey and water. He had, he says, restless nights before he adopted this practice; but since he adopted it he has slept well, and finds himself refreshed in the morning. He says further that stimulants do not now "get into his head as they once did." He still continues the practice.

• I recommended him to keep quiet and warm, and to take three grains of quinine three times a day; and in other respects recommended him to live as he had lived on shipboard.

5th.—He had a bout of ague yesterday, but the rigor was not so prolonged as before. No alteration in the treatment.

11th.—He had another attack of ague in the night, and this morning upon getting out of bed, he felt faint, and fell upon the floor. He says he did not lose his consciousness; but there is some doubt upon this point. He is at present suffering from headache and depression of spirits. The tongue was not bitten, but it exhibits the scars of former bites. He was ordered to keep more quiet, and to continue as before.

29th.—He has been improving since the 11th, without any sign either of ague or epilepsy, and his appetite is now good, and his countenance much more cheerful. He talks about returning to India, and says he does not see why he should not be as well there as here, if he adheres to the same rules.

April 10th.—Much improved. For a whole month he has been free from headache, and this is a great evidence of improved health, for he has been an almost constant martyr to this affliction for years. The bowels act naturally. The quinine to be continued.

Feb. 6th, 1851.—Mr. — wrote to me from India to say that he had been quite well since he returned home, and that he still continues almost entirely free from headache. About three months ago he had some symptoms of ague, but these subsided in the course of a fortnight under the use of quinine. He still continues to take what he calls “a fair quantity of stimulants.”

CASE 5.—Mr. Cæsar H—, æt. 27.

This gentleman has had occasional attacks of epilepsy for five years. These attacks have generally occurred during the night, but lately they have occurred several times during the day. He has also had repeated attacks of dizziness. At one time he led a very debauched life, and he ascribes the fits to this cause; but now his habits are entirely changed. He has indeed for some time been a most rigid ascetic in every respect, not touching animal food on the days on which it is proscribed by the Romish Church, of which he is a very strict member, and never tasting any kind of stimulating drink. Every morning he gets up early to go to church before going to his ordinary duties, which are those of a clerk in a public office. For some time he has suffered from pertes séminales, and these occasion much physical depression and great moral distress.

March 7th, 1851.—Tall and thin. The face extremely pale, and the hands almost transparent. The pupils are both sluggish and dilated. His memory, he says, is not at all affected, and he has no difficulty in dealing with very complicated calculations. What he lays most stress upon is his moral depression, and this he considers as a proper punishment for his former misdoings. When at home he will lie brooding and desponding for hours together. He is unmarried, and studiously avoids all society. The pulse is exceedingly weak, 75. The tongue has not been bitten.

Ordered him to take animal food at least once a day; to take bottled stout; to go out occasionally to places of amusement; to go to bed early, and not to get up until nine o'clock; and to take an ounce of Griffith's mixture, with thirty drops of chloric ether three times a day. Ordered him also to have a biscuit and glass of sherry at his office in the middle of the day.

30th.—His spirits are evidently improved. To continue as before.

April 10th.—He woke this morning laughing, and says that that laugh was the first he had been guilty of for at least three years. He now eats with an appetite, and begins to think the world not quite so dismal. Three days ago he had a slight fit on his return home, and thinks this was due to his having missed his biscuit and glass of sherry in the middle of the day, his stock being exhausted. This was followed by a good deal of sleepiness and head-

ache, but the next day he felt pretty well, except a little uneasiness in his limbs.

May 5th.—He went yesterday to the Great Exhibition in Hyde Park, and became quite excited and delighted while there. After this he walked home with as much buoyancy as he had ever felt. He has ceased to fast on Fridays. He now takes upon an average three glasses of wine and two glasses of bottled porter in the course of the day. His countenance is still pale, but not so pale as formerly. No alteration in the treatment.

— April 6th, 1852.—I met him to-day accidentally in the street, and was surprised to see the great change for the better which had taken place in his appearance. He said that he believed himself to have entirely got over his fits, and that he had not had one since he saw me a year ago, except once at the beginning of the past winter. This fit, if it did occur, occurred in the night. He thinks it did occur, because he felt in the morning as he used to feel after the fits; but he says that he had been smoking a good deal overnight, and that smoking always puts him out of order. Very shortly, after seeing me last, he removed into the country, and there he is at present. He says he now feels quite well and happy, and he hopes before long to be married.

CASE 6.—Miss C., æt. 38.

An epileptic of fifteen years' standing. The fits have always occurred frequently; but lately their frequency has considerably increased, and now rarely a week passes without one. Sometimes, but not invariably, two or three fits succeed each other before the consciousness returns. She suffers almost constantly from depression of spirits and great headache. She belongs to a very respectable family, but since the death of her father, which happened seven years ago, her circumstances have been much straitened.

October 29th, 1851.—Short and square-built. Head large; eyes large and prominent; pupils very much dilated and very sluggish; under eyelids large and bloodshot, with numerous minute spots of ecchymosis upon them. Expression of countenance dismal rather than melancholy. Pulse very small and weak, 56. Hand cold and clammy; tongue white; great flatulence; habitual diarrhoea; the catamenia profuse, and attended with much pain.

The directions given to her were, to take more animal, and less vegetable food, with a fair allowance of seasoning; to take beer, to avoid tea, and to take strong coffee instead; to avoid walking as much as possible; and to take, three times a day, a pill containing two grains of sulphate of iron and two of camphor, and occasionally a tea-spoonful of a mixture containing equal parts of chloric ether and sal volatile. Her supper, for a short time, was to be a pint of milk, with half a wine-glassful of rum in it.

November 10th.—She looks a little more cheerful. The diarrhoea is stayed, but the bowels still act twice a day. The headache and mental depression are now a little relieved. She has had two fits. The pulse a little fuller, 62. No alteration in the treatment, except to take the drops a little more frequently, and to lie down for an hour after dinner, which is in the middle of the day.

December 1st.—A decidedly more cheerful expression in the countenance. She is now some hours without headache every day—a relief which she has scarcely known for four or five years, and her sleep is disturbed by fewer dismal dreams. The bowels now act only once a day. No alteration in the fits, one still occurring about once in seven days. No alteration in the treatment.

7th.—Not so well. Three days ago, having missed the omnibus, she had a walk of five miles. A fit followed in the night. The next morning the catamenia appeared with great profuseness and much pain, and during the day

she had another fit. Her headache is almost constant; and the expression of her countenance is extremely desponding. Ordered her to keep in the recumbent position until the menstrual discharge ceased, to take bottled porter, and to continue the medicine.

26th.—Better again. She had a severe fit immediately upon reaching home after the last visit. Her headache is better, but her spirits are very desponding, and her dreams very distressing. Instead of the pills, to take, three times a day, the following draught:

R Naphthæ Purificatæ,
Spir. Ammon. Arom., aa mxx ;
Mucil. Acaciæ, 3ss ;
Aquæ Distillatae, 5xiss . M.

February 1st, 1852.—Since her last visit she has had two fits—one of considerable severity, and both during the period of menstruation. The menses were as profuse as ever. A fortnight later she had a good deal of headache, but she escaped the fit. During the last week she has been comparatively free from headache, and she says that her head is now comparatively comfortable, except after a disturbed and sleepless night. Hot coffee, she finds, will often relieve the headache now. The medicine, she thinks, has made her head feel lighter and clearer. Ordered to increase the dose of naphtha from mxx to mxl , and to go to bed not later than half-past nine o'clock.

March 16th.—No alteration of any moment. She had two fits during the last menstrual period, but these were less severe. The discharge, also, was less profuse, and there was less pain in the head and elsewhere. Her mother states that she wakes much sooner after a fit, and that there is less confusion and sleepiness afterwards. The dose of naphtha to be increased from mxl to mli .

May 1st.—No material alteration. She believes, however, that she should have been much better if she had not had to bear some very distressing domestic losses. The medicine still relieves the headache, but it causes some nausea, and the patient has taken a strong dislike to it. Two fits occurred during the last menstrual period, and one a fortnight later—the latter being the termination of a fit of crying and sobbing, which continued for more than half the night. Ordered to take a glass of bottled porter or bitter ale before going to bed; to sleep with the head upon a lower pillow; and to take the following draught three times a day:

R Quinæ Disulphatis,
Ferri Sulphatis, aa gr. j;
 Ætheris Chlorici , mxx ;
Acidi Sulph. dil., mij ;
Aquæ Menthæ Pip., 2j . M.

June 12th.—Looking better again. There has been only one fit since the last visit, and this occurred in the night about the end of the menstrual period. Much less headache than formerly. Ordered to persevere in all things, and to be particularly careful not to exhaust herself by walking or in any other way when she expected the next monthly period.

September 19th.—There has been no fit since the last visit, and the countenance has now become brisk and animated. Headache is now only an occasional symptom. The mother also says that she is much less irritable, and enters

more into the amusements and occupations of the family. This is a great change, for formerly she would sit for days in a moping, brooding condition, and never once lose the appearance of a person suffering from marked melancholy. She has fewer disagreeable dreams since she slept with her head upon a lower pillow. She has taken the medicine regularly up to this time, and now wishes to discontinue it.

December 8th.—Not so well. She went on well for two months after the time of the last visit, and during this time she had only one fit, which followed a long walk in the country. She says she could master her fits, she is sure, if she had less domestic anxiety to depress her. During the last fortnight she had three fits, occurring on successive days. These happened at the end of an unusually protracted menstrual period. Ordered to resume the last mixture, and to carry out all the old rules.

May 7th, 1853.—She has been staying for four months with a relation in the country, and the change has done her much good. During this visit she had every day three glasses of port wine, and this, she thinks, did her as much good as the medicine, which she was taking regularly. During this time she had two slight fits. These occurred at the first two menstrual periods.

— From this time I continued to see Miss C— at intervals. As the winter of 1853-54 came on, she began to flag, and she did not rally again until the summer. During this time the fits occurred about once in two months, and generally about the same time. Sometimes she got over two months. She is not now troubled very much with headache, and her spirits are much better. And this was her state about twelve months ago.

CASE 7.—J. W., æt. 30.

This patient, who was an out-patient at the Westminster Hospital, says he enjoyed good health until about two years ago, when he was turned out of his situation of groom in consequence of his sporting tendencies. Before this time he lived very well, and had abundance of malt liquors; but since this time he has been suffering from almost constant destitution. Soon after losing his situation he began to suffer from very frequent pertes séminales. The first fit occurred about eighteen months ago; and since this time the pertes and the fits have been very frequent. He rarely passes three days without a fit, and the fit generally occurs during a long walk. He walks a great deal, ostensibly with a view to finding work. His memory is very treacherous.

June 1st, 1853.—Tall, full, and flabby. His face is very stupid, and there are numerous epileptic ecchymoses upon the under eyelids and forehead. The tongue has been frightfully bitten, and it is now sore and raw from a recent bite. His pulse is remarkably small, 60. Ordered to live as well, and to keep as quiet as he could, and to take two grains of camphor in a pill every four hours.

7th.—No material alteration. The dose of camphor to be increased from two to four grains. One fit since the last visit.

14th.—Has had no fit since the last visit, and only one perte séminale. His pulse seems a little stronger.

21st.—He has now been ten days without either fit or perte, and his appearance is much more satisfactory. Ordered, in addition to the pills, an occasional dose of the ordinary carminative mixture of the hospital.

July 4th.—Still continues to improve, and still without a fit. He has now got employment in a livery stable, and he is already benefited by the better diet which he is able to command. He takes two glasses of bitter beer in the course of the day, and no more. No alteration in the medicines.

October 6th.—A week after my last seeing him, he considered himself well enough to be able to do without medicine, and the improvement continued

until about a fortnight ago, when he had a fit in the night, and another on the night following. This was two or three days after marriage. These fits were followed by much headache, but his spirits were not so much depressed as formerly. He has again returned to the camphor pills and carminative mixtures.

19th.—Considerably improved in appearance. No return of the fits.

— This was the last time this patient made his appearance at the hospital.

ART. 39.—*Cases of Chorea treated by leeches and cold.*
By Dr. MALDEN, Physician to the Worcester Infirmary.

(*Assoc. Med. Journal*, Nov. 2, 1855.)

The following cases are interesting, chiefly on account of the marked success of a plan of treatment not very frequently adopted, and opposed indeed to the views of many eminent authorities.

CASE 1.—Emma B. æt. 12, a fresh-coloured healthy-looking child, was admitted an in-patient, under the care of Dr. Malden, February 10th, 1855. Her mother states that, about three weeks ago, the girl had been frightened by some militiamen, and that in a few days she observed twitchings of the arm. The peculiar motions of chorea gradually extended, and increased in severity, till, on her admission, every limb was in constant motion, and the features were much distorted by the irregular and spasmodic action of the muscles. Her appetite is good, but she has some difficulty in swallowing food. Pulse and respiration normal.

Sumat Puly. Jalapæ co., gr. xv statim.
Mist. Ferri co., $\frac{3}{4}$ 4tis horis.

February 11th.—Bowels freely moved; spasmodic movements more severe.

Sumat Zinci Sulph., gr. ij; Ext. Hyos., gr. iij ter die.
Rep. Mist. Ferri co.

12th.—She cannot now be kept in bed, unless constantly held or tied down; the movements are so violent. She had no sleep last night. Bowels acting freely.

13th.—She appears now to be suffering from the constant irritation. Tongue dry and brown. She can take but little nourishment; spasmodic movements still more severe; gets no sleep. Ordered wine and beef-tea.

14th.—The nates and hips are excoriated from the incessant friction. She passes urine under her, and is rapidly emaciating. She is constantly held in bed, where she tosses about and moans, but says she is in no pain. Twenty minims of Battley's sedative failed to procure sleep last night; and, seeing the urgent necessity for procuring some cessation of the involuntary motions, I administered chloroform after repeating the opiate to-night. This was followed by about half an hour's repose.

15th.—She is now suffering greatly from four days' and nights' loss of sleep, and the consequent exhaustion. The sedative and tonic plan of treatment having had a fair trial without success, Dr. Malden carefully examined the spine, and in the lower dorsal region discovered a small spot, where percussion gave some pain, and immediately produced increase of the spasmodic action. Here six leeches were applied, followed by bladders of snow (which was lying on the ground at the time). There was at first great difficulty in the application, as it was necessary forcibly to restrain her movements; but

in less than half an hour comparative quiet was produced, followed by more than four hours' tranquil sleep.

16th.—Convulsive motions less violent; tongue moister, but still brown. She expresses herself relieved; but as there was still some tenderness over the spine, the leeches and snow were repeated: and from this time she steadily improved, and in a few days was put upon the use of iron and the shower-bath, regained flesh and strength, and was discharged cured by the end of the month.

CASE 2.—Hannah Holloway, æt. 12, admitted June 9th, 1855, also under Dr. Malden, with chorea of three weeks' standing. The disease arose without apparent cause, and, though gradually increasing in severity from the first, is not at present worse than the general run of cases. There is no spinal tenderness, nor abnormal cardiac action; and the bowels act regularly. She was at first put upon the usual plan of brisk purgatives, combined with ferruginous tonics, and the cold shower-bath; but by the end of the week the convulsive movements were much aggravated, articulation and deglutition were greatly impaired, and it was impossible so keep her in bed. She was placed on mattresses on the floor, where she lay tossing about for four days without sleep, rapidly emaciating, and the countenance marking the great exhaustion of the vital powers. Tongue parched and brown; pulse rapid and weak. Full opiates had failed to produce sleep; and, though the spine was repeatedly examined, no such evidence of tenderness could be found as was so well marked in the last case. On the 19th, however, a spot in the lumbar region of the spine appeared to be slightly more sensitive to percussion than others; and six leeches were applied, followed by ice in bladders. The relief was again most marked; four or five hours' tranquil sleep followed; and the improvement evidently dated from this point. The emaciation was very great, and the strength seemed to have been more diminished than in the former case. The excoriation of the elbows, ankles, and hips, was very severe. She was ordered wine, with beef-tea and eggs; and five-minim-doses of Battley's sedative liquor every four hours. She became more tranquil, and the amendment was steady. On the 20th, she was able to use a cold douche to the spine, though she was obliged to be supported while using it, as she was unable to stand alone, from debility. There are no remains of dorsal tenderness. Appetite good; tongue clean and moist; and bowels regular. The carbonate of iron completed the cure early in July.

ART. 40.—*Case of Cataleptic Hysteria.* By Dr. RINGLAND.

(*Dublin Quarterly Journal of Med. Science, Aug. 1855.*)

The following very curious case of cataleptic hysteria was communicated to the College of Physicians in Ireland, on April 4th, 1855.

CASE.—Mrs. ——, an English lady, of literary taste and sedentary habits, about 30 years of age, and married eight years, had been very delicate from her earliest infancy. During the six years antecedent, and the year immediately subsequent to her marriage, she suffered from most intense headache. Two years prior to her marriage she was under treatment for spinal irritation, as she was informed by her then medical attendant. About this period, too, she voided several portions of tapeworm, and had frequently, both before and after her marriage, passed large quantities of ascarides. She was at all times subject to palpitation of the heart, and had on one or two occasions a slight hysterical fit. She suffers intense pain on touching the last

dorsal vertebra, which for some years has projected to about the size of a nut. A sound as loud as the snapping of the fingers is frequently heard proceeding from this locality whenever she is much fatigued, or has been standing for a considerable time; and this sound Dr. Ringland has more than once heard. She also experiences, since her first confinement, great pain on the least pressure being made against the coccyx, which has been slightly dislocated downwards and backwards, and has become ankylosed in that direction.

On the second night after she was married, whilst engaged at prayers, she was suddenly, and without the least premonitory indication, seized with the first of the series of fits about to be described; and this was shortly followed by a second, of a like character. An interval of six months then elapsed without their recurrence; when, however, being much about that length of time pregnant, she was again attacked, and, as on the former occasion, without any premonitory symptom, and whilst in a state of complete mental quiescence, having been previously engaged in calm, unexciting conversation with her husband. The headache from which she had previously suffered was greatly aggravated from this period until after her confinement, and she has described it as though a tight iron cap was violently pressed on the upper half of her head, to which the headache was strictly limited. The fits now returned with but very short intervals, and it was with considerable difficulty her medical attendant prevented a premature confinement.

Some little time after the fits became completely established, she observed that, if she was engaged in conversation immediately antecedent to the access of one, she could not command the words she uttered, although fully aware of what she ought to say, and thus she frequently appeared to give expression to the most absurd ideas, and to opinions which were quite opposed to what she had intended to convey. Often, too, having spoken a portion of a sentence, she terminated it upon a subject quite different from that on which she had commenced her observations, or came to an abrupt close, finding herself totally deprived of further utterance.

Up to, and during her confinement, she had frequent attacks, sometimes so many as thirty in the twenty-four hours, and seldom less than fifteen or twenty. After her confinement, which was easy and natural, they were reduced to two or three in the day, and on very rare occasions one whole day has elapsed without their recurrence. Within the last eighteen months her health in this respect has considerably improved, as, repeatedly, days, frequently weeks, and sometimes even a month, has elapsed without a fit.

The origin of this affection she attributes to excessive fright, produced by witnessing very violent paroxysms of hysteria, almost amounting to insanity, in a female relative, with whom she was on a visit shortly before her marriage.

Fatigue, excitement—whether pleasurable or the reverse—or even music—if loud or prolonged—noise—the slightest start—the least pressure against the painful part of the spine, or against the coccyx, instantly induces a fit; they frequently, however, come on without any apparent exciting cause.

The duration of each fit is very variable; sometimes it lasts only three or four minutes, and sometimes it is prolonged to an hour and a half. Dr. Ringland has witnessed several which lasted from twenty minutes to half an hour each.

She has never had less than two fits when attacked, the second being of much shorter duration than the first, and invariably succeeding it after but a short interval.

She appears to have been obnoxious to the attacks at all times and seasons, in all postures, and under every circumstance. She has been liable to them in summer as well as in winter; has been attacked whilst in bed or at her

meals ; whilst engaged in reading, writing, or in conversation ; whilst standing, walking, or sitting ; whilst alone or in the midst of strangers ;—frequently with a word half uttered, or a piece of food partially masticated ; and more than once has her life been placed in jeopardy by the fit occurring when she was near a fire, or whilst she was engaged in the act of deglutition. The presence or absence of menstruation has no apparent connection with the attacks, nor has that secretion ever been in the least affected by them ; neither does the existence of pregnancy or lactation seem in any respect to influence this strange affection, excepting that the fits have been much more frequent from the moment of impregnation up to the period of quickening, than at any other time.

Instantly, on the access of a fit, she falls backwards or forwards, according to the direction in which her head has been at the moment. Should she, however, have her baby in her arms at the time, she holds it firmly clutched in her hands, which cannot, without considerable violence, be opened ; although, when the fit ensues at any other time, her hands, though closed, can be easily opened.

The particulars of this lady's case Dr. Ringland learned from herself some months prior to her then approaching confinement—her fourth—and which took place early in December, 1854. Immediately after the birth of the child, which was mature and healthy, she had one of her customary fits, which was followed by a second, immediately after the expulsion of the placenta. The following is a brief description of the first fit witnessed by Dr. Ringland.

Without any previous indication whatever, she suddenly seemed to faint, and lay in a state of *apparently* total unconsciousness. She, however, was quite aware of every circumstance that occurred around her, and could afterwards detail the conversation which had taken place in the room. Her limbs remained in whatever position they were in at the time of the attack, or in any other to which they were subsequently changed. There was no alteration in the colour of her lips, in her complexion, or in the appearance of her skin, which remained of the natural temperature. Her eyelids were closed, but when raised, continued open until closed again. The pupils contracted well on exposure to light. Her pulse was about 100, but very feeble. There were no apparent heavings of the chest nor movements of the nostrils. Repeatedly during the existence of the fit, but more violently towards its close, there were convulsive twitches of the muscles of the face, spasmoidic clenching of the fingers, and forcible supination of the hands on the forearm. There were no convulsive movements of the lower extremities, although such occasionally occurred, as she informed Dr. Ringland, and were always present during the first few months of the existence of the fits.

No restoratives were applied during the fit, as she had previously intimated to Dr. Ringland that the employment of the most simple of these had always produced violent and prolonged hysterical paroxysms, which never presented themselves when interference was not had recourse to.

After the lapse of about five minutes she gave a deep sigh, then opened her eyes, looked about her, and feebly held out her hands. On this signal, which is well understood by her attendants, she was without delay raised into a sitting posture, and after a brief interval of quiet she was perfectly restored.

Had not her attendants, as she informed Dr. Ringland, at once placed her in the erect position, she would have relapsed again and again into the fit. She, too, is so conscious of this necessity, that instantly on the subsidence of the fit she holds out her hands, as described, thereby indicating her desire for the requisite assistance. Should she at this time be handled roughly, or

should the tender part of the spine or the coccyx be touched, she at once relapses into the fit.

She is not able until after the lapse of considerable time, and not even then without the greatest effort, to utter a single syllable, the peculiar condition excited throughout the system appearing in her case to attach itself more firmly to the tongue than elsewhere.

After the subsidence of the attack she is greatly distressed with tremors of the whole body, which last sometimes for only a few minutes, but at times continue for several hours.

Before concluding, Dr. Ringland made a brief summary of this singular case, directing attention to its leading characteristics and points of interest; especially to the previous existence of spinal irritation; the occurrence of the attacks in summer as well as in winter; the existence of consciousness during the fits; the erect position being necessary at the close of the fit, and neglect in this respect causing relapse; the loss of speech being prolonged after the subsidence of the other symptoms; and, finally, to the fact that restoratives induced hysteria.

ART. 41.—*Mutism and Aphony of twelve years' standing cured by electricity.* By M. FLAMANT, of Strasburg.

(*Dublin Hospital Gazette*, Feb. 15, 1856.)

On a recent occasion, M. Sedillot submitted to the Académie des Sciences, the case of a woman, 30 years of age, treated by M. Flamant, of Strasburg. The patient had, twelve years previously, been suddenly struck with dumbness and aphony, in consequence of a sudden fright. Various plans of treatment had been adopted, without any benefit; hearing was unaffected, and the patient communicated with those about her by signs, but was unable to utter the slightest sound.

The tongue was found somewhat retracted upwards and backwards, the apex pointed to the roof of the mouth, and could, with difficulty, be depressed by the patient, who was wholly unable to press it against the back of the teeth. Deglutition was unaffected, but there were occasional hysterical attacks. The diagnosis which was formed was, that there was paralysis of the principal extrinsic muscles of the tongue, especially of the genio-glossi, with a similar condition of the muscles of the larynx which govern the action of the vocal cords. It was thought that electricity might be useful. [*Électricité par induction* was employed, and the apparatus of Legendre and Morin was used.] From even the first application benefit was derived; after the third application, the power of speech was restored, but not the voice. For some time, the attempts at pronouncing words caused a sensation of fatigue about the hyoid region. The voice gradually came back, and ultimately a complete cure was the result.

Similar cases are on record, but none in which the affection had lasted for so long a time. For example, in the 'Mémoirs de l'Académie des Sciences' for 1753, there is a case very like this one.

Three other cases are given in a German Journal for 1843, ('Canstatt's Jahresbericht.') One of these was a case of complete aphonia, the result of chronic syphilitic laryngitis, which got well after the third application of electricity.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 42.—*On the diagnosis of Fibrinous Concretions in the Heart in certain cases of Inflammatory Croup.* By BENJAMIN W. RICHARDSON, M.D., Physician to the Royal Infirmary for Diseases of the Chest.

(*Medical Times and Gazette*, March 8, 1856.)

"With regard to croup," says Dr. Richardson, "I take a decided and strong position, which has peculiar bearings; first, on diagnosis, and, secondly, on treatment.

"My views are these: 1. That croup, like all other hyperinotic diseases, commences first as a general disorder. That, in the outset of the general symptoms, the respiration is quickened, the combustion of the body is increased, and the fibrinous constituent of the blood is made in proportions abnormally excessive.

"2. In regard to the local mischief, I contend that this, in inflammatory croup, is a secondary effect, like all other local manifestations.

"3. In croup of the inflammatory type death may and does occur, either from an obstruction in the heart (syncope), arising from the right cavities of that organ being the seat of a fibrinous deposit, or from obstruction in the windpipe (apnœa), arising from over-secretion; or, lastly, from a combination of these causes, as happened in a cases related to the Medical Society by Dr. Hawksley, where the local mischief produced death, while yet the fibrinous concretion was becoming developed, and before it had materially impeded the circulation.

"Holding, then, these views on the causes of death in croup, I am in no way prepared to deny the usefulness of tracheotomy in some forms of this disorder, nor have I ever denied it; but I maintain that there are certain cases in which the death is clearly by syncope, the result of fibrinous deposition, and that in these cases the operation is simply absurd. I would further remark, that Mr. Smith has related case where the symptoms, as he describes them, were those of syncope from this cause, and that the death in those cases was removed altogether from the operation—being death by syncope, not by apnœa.

"The symptoms which mark the cases of croup about to terminate in syncope, the result of cardiac obstruction, are distinct from those arising from obstruction in the air-passages.

"The differences are these: In the cases of syncope from arrested circulation, the dyspncea is not caused by obstruction in the larynx, but by the peculiar anxiety and gasping desire to breathe incident to the want of blood in the pulmonic circuit. In this case, therefore, if the stethoscope be carried from the upper part of the windpipe down-

wards, and over the whole chest, the respiratory murmur is audible, and, it may be, clear throughout, so that the observer is prepared to say that there is here no such deficiency of respiration as will account for the severity of the symptoms. Again, the most common physical pulmonic sign in these cases, is that of emphysema, which is often accompanied, in very young children, by a peculiar prominence in the anterior part of the chest. This emphysema, when present, is strictly diagnostic of fibrinous obstruction, and is altogether subversive of the idea that the cause of the symptoms is an obstruction in the windpipe.

“In addition, there are, in these cases, the definite signs which mark the cardiac obstruction. The body is cold, and generally pale, almost marbly, but mostly so at the extreme parts. The lips are slightly blue; the cheeks are occasionally the same. The jugular veins are distended. The pulse is irregular. The body is painfully restless. The heart-beats are feeble, quick, and irregular; the sounds muffled, with a bruit in some cases. No real convulsions of the limbs occur, but intense anxiety and constant movement.

“In those cases, on the other hand, where the death is really due to apnæa,—the effect of obstruction in the air-passages,—the symptoms are widely different. In these cases there is some point in the respiratory canal where an obstruction can be detected. The lungs show signs of congestion, but never of emphysema. The difficulty of respiration arises from an absolute inability to fill the chest. From the fact of the obstruction being in the respiratory circuit, such blood as passes through it is not arterialized, and the surface of the body, instead of being pale, as in cases of cardiac obstruction, is generally of a dark hue, with the veins more decidedly turgid. The muscles are not simply restless, but actually convulsed violently, the patient being unconscious of the fact; the heart-sounds are clear, and its motions, though feeble, are rarely tumultuous.

“Lastly, the breathing is the first to stop at death, while, in the former case, the heart takes the precedence in this respect.

“These broad and definite diagnostic signs, can never be mistaken, except in instances where there is a clot in the heart coincidently with obstruction in the windpipe. Here some difficulty may arise, but a careful inquiry into all the facts will indicate the existence of the complication.

“The points of practice which are to be gathered from a clear diagnosis in cases of this character are numerous, but in none so important as in settling the question whether tracheotomy should or should not be performed.

“If in any given case the practitioner shall find the symptoms referable purely to obstruction in the trachea or larynx, and the circulation unembarrassed, he will operate with good chance of success, granting that the point of obstruction is not too low, and that no further inflammation succeeds. If, on the contrary, he should diagnose the symptoms of cardiac obstruction, whether or not complicated with constriction in the windpipe, the operation is worse than useless; it will, of necessity, fail, because there are other fatal influences at work which the knife cannot affect.”

ART. 43.—*On Tracheotomy in the last stage of Croup.*
 By M. TROUSSEAU, Physician to the Hôtel-Dieu.

(*Medical Times and Gazette*, Jan. 5, 1856.)

After some preliminary remarks, M. Trousseau proceeds :

“ I am firmly decided, for my part, not to be discouraged, but to advocate tracheotomy with so much the more conviction as the proportion of successful cases increase ; and if that proportion remained even as it was ten years ago, I would still proclaim the necessity of tracheotomy, and I would not cease to uphold it as a duty, a duty as imperious for a surgeon as the ligature of the carotid artery after a wound of that vessel, even if death followed the operation as often as the cure.

“ Here are the results of my operations for tracheotomy during the year 1854 : I operated on nine children. Of these, two died, while seven were cured, and are now living in perfect health.

“ Certainly the proportion of cured is not always so great ; still, if I make the sum total of the operations I have performed in the last four years, I find twenty-four operations, and fourteen cures, equivalent to more than half.

“ At the Hôpital des Enfants Malades, in the last five years, the proportion of cures has been nearly a quarter. Here are the official numbers, viz. :

1850 .	20 operations .	6 cures, about 1-3d.
1851 .	31 ,	12 , more than 1-3d.
1852 .	59 ,	11 , less than 1-5th.
1853 .	61 ,	7 , only 1-9th.
1854 .	44 ,	11 , only 1-4th.
<hr/>		
Total 215	,	47 , about 1-4th.

“ This result is considerable, if we remember the social condition of the children who are brought to the hospital, the deplorable treatment they are subjected to by ‘sage femmes,’ quacks, etc. ; in a word, those persons the poor generally consult in preference to doctors. We should bear in mind, too, the unfavorable condition of the hospital, where the children operated upon are placed in the midst of the most varied and fatal contagion ; so much so, that often when the operation for tracheotomy is succeeding as well as could be desired, the scarlet fever, measles, smallpox, or hooping-cough, cause the most fearful complications.

“ I do not doubt that half the operations performed out of hospital are successful, always provided tracheotomy takes place when the chances of cure are possible.

“ This restriction is important ; for, if the diphtheritic infection is thoroughly rooted in the system, if the skin, and particularly the cavities of the nose, are invaded by this special phlegmasia ; if the quickness of the pulse, delirium, prostration, indicate a profound poison, and if the danger is rather in the general state than in the

local lesion of the larynx or of the trachea, certainly the operation should not be tried, for it is invariably fatal; when, however, the local lesion constitutes the principal danger of the disease, no matter at what degree asphyxia has arrived, even if the child has but a few moments to live, tracheotomy succeeds invariably, as well as though it had been tried three or four hours sooner."

Then M. Trousseau speaks of the mode of operating, and of the necessity of using a double canula; and after this he proceeds to speak of the after-treatment. Upon this last subject his remarks are of extreme importance, and we copy them without abbreviation.

"The operation once performed, the first duty of the practitioner is to see to the nourishment; that remedy above all essential in most acute maladies, and particularly so in diseases of children. Certainly, abstinence, prescribed by Broussais, and ordered by those practitioners who still cling to the old school, and who keep up the prejudices of their early medical education, is one of the most pernicious helpers of disease; it is the best means of prolonging the infection of the system, and the surest way of facilitating the absorption of exterior miasma and vicious excretions formed by the malady; the surest opponent of that resistance which is the chief aid of convalescence and ultimate cure.

"Now, I do not mean that we must fall into the opposite extreme, that we must overfeed the little patients; I only say, that we should satisfy the appetite, if they have any, and even force them to eat, if they show too much repugnance to food. Do not hesitate in employing intimidation; in this case often have I assumed the air of severity, and obliged the child to eat, thus preparing the way to a cure I otherwise judged impossible. Milk, eggs, custards, chocolate, and soups are the aliments I most insist on. What I have here urged sufficiently indicates that I most formally proscribe the continuation of those means judged more or less useful before the operation, viz.: calomel, alum, emetics, and purges, which are not compatible with the nourishment I advise.

"I need not add, that the application of blisters would be pernicious, inasmuch as they would establish a new surface when the specific inflammation would break out, and thus occasion a fatal absorption, which must be avoided at any risk.

"When this happens, as it often does, after blisters have been applied, we must as soon as possible dress the wound with extract of rhatany or Goulard's cerate, or else rub it with nitrate of silver, if diphtheritic concretions already cover the skin which has so uselessly been laid bare.

"I now come to the details of dressing, to which I seem to attach so much importance; but the older I grow the more I am convinced that in medicine, the minutiae hold a much more considerable place than is generally supposed. Great care must be taken in placing between the skin and canula a round piece of oiled silk, or india-rubber, in order to prevent the sides of the canula, and the strings which attach it, from irritating the wound.

"The patients must be taught to remove and replace the internal canula, which is to be cleaned every two or three hours.

" The child's neck must be enveloped in a knitted woollen scarf or large piece of muslin, so that he breathes in through the tissue which covers the neck, and inhales the warm air impregnated with the moisture furnished by the breath. This precept is excellent; we thus avoid the drying of the cavity of the canula and of the trachea; we prevent the irritation of the mucous membrane, and the formation of hard scabs, analogous to those which form in the cavities of the nose of persons attacked with coryza, scabs which, detaching themselves in complete tubes, or in fragments of tubes, cause terrible fits of suffocation, and sometimes even death, by the occlusion of the canula.

" Before Dr. Guersant and I had adopted this method, we lost numbers of patients by catarrhal pneumonia, and now this result is much less frequent. It is very probable that the introduction of hot and moist air into the bronchi is quite a favorable condition. There is still a practice, without which the cure is rare: I refer to the cauterization of the wound. The first four days the whole surface of the incision should be vigorously rubbed with nitrate of silver once a day; thus we avoid a serious result. I mean the diphtheritic infection of the wound which covers itself with thick and fetid false membranes. A specific inflammation seizes the surrounding cellular tissue, and developing often a bad species of phlegmonous erysipelas, which becomes the occasion of local gangrene, and at last of a violent symptomatic fever, and of a general infection almost always fatal. The fifth day the surface of the wound is so modified that the results above indicated are no longer to be feared. There now remains a last and very delicate part of the treatment, to which I wish to call attention for an instant—I refer to the removal of the canula and the definite occlusion of the wound. We must establish the fact that the sooner the canula is removed the better. This can rarely be done before the sixth day, as it is seldom necessary to scar it later than the tenth. However, there are cases when the larynx remains completely shut during fifteen, twenty, and even forty-four days, as I saw in the case of a young girl eventually cured.

" At the end of the first week we must remove the canula, taking care not to frighten the child or make it cry. The poor little sufferers are so accustomed to breathe with ease by artificial means, that when the canula is removed, in order to facilitate the passage of the air through the larynx, they are seized with excessive fear, expressed by agitation, cries, and in consequence there is an acceleration of the breathing. The larynx is still a little obstructed either by false membranes, by mucus, or by a slight tumefaction of the membrane; and then, perhaps, the laryngeal muscles have lost the habit of contracting in harmony with the wants of the respiration. There often results great difficulty from this circumstance. This difficulty disappears well enough in the great number of cases, if we succeed in tranquillising the little patient: this is the province of the mother rather than the practitioner. The wound is closed with short strips of court-plaster. If the sound of the cough or the respiration, or the nature of the voice, indicate that the opening of the larynx is sufficiently large, we leave the dressing there; but if the air only pass in insufficient quantity, the plaster must be put on; the wound should only be covered with

linen and simple cerate, and we wait the next day before closing the wound ; if the air do not pass at all, then we replace the canula, and, two or three days later, make the attempt again.

“ So soon as the respiration proceeds well, notwithstanding the occlusion of the wound, we should renew the dressing two or three times a day ; ordinarily, the opening of the trachea is shut in four or five days ; then only remains the exterior wound, which we dress with linen, and which in its turn soon heals.

“ There is a serious difficulty which I have remarked to physicians for a long time, and to which Dr. Archambault has recently called attention, I mean that of swallowing. This difficulty consists in the passage of liquids through the glottis : each effort the patient makes to drink is followed by a violent and convulsive cough, and the liquids, which penetrate into the trachea and the bronchi, flow in abundance by the opening of the canula. Besides the serious inconvenience which may follow from the contact of food with the mucous membrane of the bronchi, there particularly results an insurmountable disgust, and children often die of hunger, in preference to taking their nourishment. So often this complication has been the cause of death after tracheotomy, that I have made great efforts to find a remedy. The best method is to forbid liquid food. I give to children very thick soup, vermicelli with milk, or with beef broth, so thick as to be eaten with a fork rather than a spoon, hard-boiled eggs, eggs with milk, occasionally meat in large pieces, and I forbid all drink. If thirst is too ardent, I recommend pure cold water, and I am careful to administer it either long after eating or immediately before, in order to prevent vomiting. I should remark, however, that the difficulty of which I speak scarcely manifests itself before three or four days after the operation, and that it lasts rarely longer than ten or twelve days. Nevertheless, I have seen it persist much longer with some children.

“ It would seem that the larynx, which is so open to receive drinks and liquid aliments, should suffice also for the passage of the air necessary for the purposes of respiration ; this is not the case, however. If we remove the canula, we perceive that the opening is still insufficient, and even some days later, when we are able to close the wound with court-plaster, these difficulties continue with the same violence.

“ It is almost impossible to discover the cause of this. Dr. Archambault holds that the child, who has breathed by the canula for some days, loses the habit of freely using those muscles which serve for the occlusion of the larynx, and those which push the food into the œsophagus, and he highly approves the following ingenious method, which consists in momentarily closing the canula with the finger, whilst the patient swallows ; thus the child is obliged to use its larynx, and the normal harmony of its organ is re-established.

“ This little stratagem succeeds well in some cases, but in others it completely fails, and what I have said above proves it ; since even when the canula is removed, and the wound is completely closed, yet the difficulty of deglutition continues, although the breathing through the larynx may be perfectly free and regular.”

ART. 44.—*The indication for Paracentesis Thoracis in Pleurisy.*
By M. TROUSSEAU.

(*Medical Times and Gazette*, Jan. 26, 1856.)

These remarks are taken from a clinical lecture which was recently delivered at the Hôtel-Dieu.

“The indication for operating is to be drawn from the quantity of liquid, and not from the amount of functional disturbance, such as, for example, the oppression of breathing. Thus, the patient in No. 10 suffered four or five days ago from very considerable oppression, which then diminished so much as to cease to inconvenience him, although the operation furnished more than 7 lb of fluid. So free had his respiration become prior to the operation, that he rose and went to the privy, fainting when he got there. You will meet with individuals with enormous effusion making no complaint of, and not perceiving, any oppression of breathing, although this is really in existence, as may be ascertained on examination of their inspiratory power. This defective impressionability, where so much cause for oppression existed, as in the case of the man in No. 10, is very remarkable, for respiration was carried on only by one lung, the play of which was also limited by the compression exerted by the heart and mediastinum. The same insensibility prevailed in the cases seen by M. Trousseau at the Necker. M. Pidoux, too, in his monograph on latent pleurisy, relates the case of a patient who died suddenly under similar conditions. The same happened in a case in which MM. Trousseau and Chomel were about to determine to operate. We must, therefore, never take as the basis of our determination to operate anything but the quantity of fluid, the amount of which may always be judged of by inspection, percussion, and auscultation. The amount of febrile reaction will not serve us as a guide, any more than the oppression of breathing; for we find the effusion becoming excessive precisely in the subacute, the so to say hidden, form of pleurisy, in which the fever is slight, and the pain in the side almost insignificant. There appears in such cases something as much due to the fluxion as to the inflammation; and, without professing to institute any exact comparison, they seem to differ as much from simple inflammatory pleurisy as a hydarthrosis differs from an arthritis, properly so called.”

ART. 45.—*On Paracentesis Thoracis.*
By Dr. DANIEL H. TUKE, Physician to the York Dispensary.

(*Assoc. Med. Journal*, Dec. 7 and 14, 1855.)

In this paper Dr. Tuke relates three cases which illustrate the three principal terminations of cases after operation, viz., perfect recovery of health and lung, recovery of health with a contracted chest, and temporary relief but subsequent death.

Then follow the statistics of the subject, with comments upon them.

"The three cases I have now detailed, added to those of which I have obtained the results (so far as the mortality is concerned), make a total of 246 on whom the operation was performed. In attempting to determine the success of the operation from the published cases, we are exposed, I am fully aware, to one source of fallacy, and that is, our ignorance, in a large number of instances, of the after-history of the patient. For instance, it is impossible to discover how many of these patients were living a year after the operation, yet this is surely a very important point in making any inquiry into its success, and our knowledge of it would, no doubt, add very much to our estimate of the mortality of the cases operated upon.

"The 246 cases alluded to have been collected from the practice of well-known medical men, as Dr. Hughes, physician to Guy's Hospital; Dr. Hamilton Roe, senior physician to the Hospital for Consumption; Dr. Watson; Mr. Benjamin Phillips, and others.

"The following table will show the number of cases operated upon, and the proportion fatal under each; there being a total of 100 cases of genuine empyema, and 146 of serous effusion; the mortality of the former being 26, and the latter 33.7 per cent.; that is, a mortality of 7.7 more than that which occurred in the cases of genuine empyema.

*Table showing the results of Operative Interference in two hundred and forty-six cases.**

By whom observed or reported.	Fluid effused, purulent.	Mortality.	Recovered.	Fluid effused: serous.	Mortality.	Recovered.
Dr. H. Roe (collected by him)	20	6	14	19	5	14
Dr. H. Roe (observed by him)	10	2	8	14	4	10
Mr. Phillips	31	5	26	91	29	62
Dr. Hughes	10	2	8	19	10	9
Dr. T. Davies	10	2	8	...	...	...
Dr. Watson	6	3	3	...	...	...
'Med. Times and Gazette'	9	4	5	1	1	...
Dr. Paley (Peterborough).	1	1	...	2	...	2
Dr. Theoph. Thompson	1					
The late Mr. Hey, of						
Leeds	3	1	2	...	...	...
Dr. Williams, of York	1					
Total	100	26	74	146	49	97

* Vide 'Med. Chir. Trans.', 1844; 'Guy's Hosp. Reports,' 1844; 'Medical Gazette,' 1847, &c.; 'Med. Times and Gazette,' 1854; 'Association Medical Journal,' Jan. 5th, 1855; Hey's 'Surgery'; Dr. Watson's 'Principles and Practice of Physic,' &c.

SUMMARY.—Total number of deaths	75
Mortality per cent. in genuine empyema	26·0
" " in serous effusion . . .	33·7
" " in all cases	30·4
Total recovered (more or less completely) . . .	171
Grand total	246

"I imagine the explanation of this is partly to be found in the fact, that the cases of serous effusion were more frequently associated with fatal diseases. This remark would apply especially to cases of mechanical hydrothorax. I believe, also, that a large proportion of cases of phthisis will be found among the examples of serous effusion operated upon.

"With regard to the real subsequent condition of the patient in those cases *in which death did not occur*, I find that, of 44 cases in which I have been able to determine this point, 33 appear to have recovered their health perfectly, and in 13 of these, the lung re-expanding, no contraction of the chest followed; 5 cases were progressing favorably when last seen, and 6 were not likely ultimately to recover: total, 44.

"Out of the 29 cases reported by Dr. Hughes, 14 recovered so far as regards the effusion; 2 may be justly mentioned as having at least partially recovered; one of these had, after seven years, a fistulous opening into the pleura, and the other had still some, though comparatively a very small quantity, of fluid in the right pleura (but so much better as to be in search of employment), when the cases were reported; 1 remained under treatment. Twelve have ultimately died of other diseases, generally connected with that for which the operation was performed, but entirely independent of its performance. Of these 12 fatal cases, 6 have died of phthisis; 2 of malignant disease of the lung; 1 rather suddenly with hydrothorax of the other pleura; 1 of gangrenous pulmonary abscess of the opposite side; 1 died of chronic pneumonia; and 1 (a case of pneumothorax, with effusion) of pneumonia and pericarditis."

Dr. Tuke's conclusions are these:

"1. It is impossible to determine the precise period when the lung becomes irretrievably damaged by effused fluid—as this must depend to some extent upon the individual case; but it can be proved to take place in a period certainly not more than one month and nineteen days. On the other hand, the longest time a lung was subjected to the pressure of a large amount of fluid, and yet recovered itself, was four months; but, in the great majority of cases, the lung lost its power of re-expansion long before.

"2. That in regard to the danger of serum becoming converted into pus by delay, it can be shown that serum, the result of inflammation, may remain such for seven months; but that, on the other hand, the conversion may take place in a very early stage of the effusion.

"3. That when the serous effusion has become purulent, we are not justified in expecting absorption, although such an event has occasionally occurred; but must expect the matter to make its escape

either by ulceration of the walls of the chest, or of the pleura pulmonalis, producing pneumo-thorax and expectoration of pus.

“ 4. That the mortality per cent. in the cases operated upon (a large number of them apparently desperate cases) was 30·4, and only 26 per cent. in the cases of genuine empyema; that with regard to the non-fatal cases, some would doubtless not survive long; but that a fair proportion completely recovered, and that the most successful results were obtained when the operation was resorted to in an early stage. In some cases, immediate and permanent relief was obtained when death seemed imminent from suffocation. In none did the operation cause fatal results—facts which are much more encouraging than might have been expected from the experience of some other operators. Boyer performed the operation several times, but never saved a patient. Dupuytren saw only two successful cases in fifty. Sir A. Cooper saw only one successful case. Gendrin had not one successful case out of twenty in which he operated.*

“ 5. In regard to the main question of the essay—it appears to be incumbent to resort to paracentesis when the dyspnœa is so urgent as to threaten death, whether it be in an early or a late stage of the effusion, and whether that effusion be serous or purulent.

“ Cases of mechanical hydro-thorax, or cases in which the effusion is complicated with phthisis, malignant disease, &c., in which the symptoms of asphyxia are urgent, and in which an operation can afford only temporary relief, may perhaps be regarded as analogous to cases of phthisis, in which, from the larynx becoming involved, suffocation is imminent, and tracheotomy alone can prolong, though it cannot save life.

“ It likewise appears to be reasonable to employ it when we feel satisfied that the effusion is purulent, and the patient is obviously losing ground. ‘ It is,’ says Mr. Cock, surgeon to Guy’s Hospital, ‘ from an early application of the trocar that a successful result must be anticipated, and it is the delay until the pressure of the fluid becomes indicated by external physical signs which has so often led to disappointment in the issue of the case.’

“ How far, however, when a patient is in moderate health, and has a large collection of fluid in his pleura, uninfluenced by absorbent and other remedies pursued for many weeks; how far, I say, we are justified in endeavouring to anticipate the time when the lung will be irremediably compressed and bound down, by tapping the chest, is a much more difficult question; but, on the whole, I think that, unless we have strong grounds for believing the fluid has been converted into pus (judging of this more by the condition of the patient than the period of the effusion, important as this circumstance would be as an auxiliary), it would be rash to resort to paracentesis, especially when we know that occasionally large effusions are unexpectedly absorbed when remedial treatment has been regarded as hopeless. Dr. Hughes, however, says, ‘ My own experience and consideration induce me to believe that it is preferable to tap the chest as soon as all hope of the future beneficial operation of remedies has disappeared: and, if possible, before the effusion has been converted from serum into pus.’ ”

ART. 46.—*Prevention of reaccumulation of fluid after Paracentesis Thoracis.* By M. ARAN.

(*Journ. de Med. et de Chir. Prat.*, Sept. 1855; and *Assoc. Med. Journ.*, April 19, 1856.)

“To prevent the reaccumulation of fluid after the operation of paracentesis thoracis, M. Aran administers a combination of nitrate of potash with digitalis. This produces a marked diuretic effect. The medicine is ordinarily given in powders or pills, containing from fifteen grains to a drachm of nitrate of potash, and from four and a half to thirty grains of powdered digitalis. Large doses at first are liable to produce a distressing feeling of *malaise*, and troublesome diuresis. Hence it is best to begin with fifteen grains of nitrate of potash and three grains of digitalis. If this is well borne, the dose may be rapidly increased. M. Aran usually begins with four and a half grains of digitalis, and doubles it the next day, if there is no vomiting. He also prescribes the medicine in a mixture with syrup; a form which he states to be a very good remedy in *haemoptysis*.”

ART. 47.—*Diagnostic value of a Microscopic Examination of the Sputum.* By Dr. J. HUGHES BENNETT, Professor of the Institutes of Medicine in the University of Edinburgh.

(*Edinburgh Medical Journal*, Jan. 1856.)

“A proper appreciation of the structure of sputum requires a thorough knowledge of histology, as, mixed with the expectoration, may be found—1st. The natural secretion of the salivary and mucous glands, with the epithelial structures of the mouth, fauces, and pharynx. 2d. All the structures that enter into the composition of the bronchi and lungs, in various stages of disintegration. 3d. The results of various morbid processes, in different stages of development or disintegration, such as the inflammatory, tubercular, or cancerous exudations, extravasations of blood, earthy concretions, &c. And, 4th. All kinds of substances which enter into the composition of food, which adhere to the mouth and teeth, such as starch corpuscles, and the different elements which enter into the composition of the various vegetable and animal substances used as aliment. Great pains and considerable time are also required in the examination, so as to satisfy the inquirer that nothing of importance has been overlooked.

“Extensive examination of sputum with the microscope has, up to a recent period, served to persuade most scientific physicians that it was of little practical importance, inasmuch as percussion and auscultation yield us a more efficient and more exact means of determining the changes which go on in the lung. The recent careful examination of sputum, however, by Dr. Andrew Clark,* as well as a case which has come under my notice, may induce them to modify that opinion.

“Professor Van der Kolk of Utrecht,† was the first who directed attention to the fragments of the elastic fibres of the lung in sputum,

* ‘Trans. of Patholog. Soc. of London,’ vol. vi, p. 74.

† ‘Nederlandch Lancet,’ 2 Sir. D. 1.

as occasionally being of diagnostic importance. That such fibres were common in the sputum of consumptives, after ulceration of the lung has commenced, is easily proved, and has been familiar to myself for the last fifteen years. The important part of Van der Kolk's memoir, however, is contained in the following passage: 'But we ought to determine if these fibres are only observed when phthisis is already well advanced, and produced great ravages, or if they exist in expectorated matter at the first formation of vomicæ, so that they enable us to determine their existence when commencing. My conviction, with regard to this important problem, is, that it is exactly at the commencement of phthisis, and at the first formation of a vomica, that the elastic fibres were present in the greatest abundance, and that they may then be considered as among the most positive signs we possess of the presence of a cavern. Later, when the cavity has acquired a certain extent, these fibres become more rare in the expectoration, and are with difficulty distinguished.' This statement is supported by a case, in which very insignificant signs could be determined by auscultation, although the general symptoms indicated phthisis—yet, where the fibres existed in considerable numbers in the sputum, and led to a diagnosis, which was confirmed by the subsequent progress of the case.

" Such an instance as that described by Van der Kolk I believe to be very rare, and the question always arises whether the lungs were examined with sufficient care, so as to render it certain that, whilst fibres of elastic tissue, derived from those organs, existed in the sputum, no auscultatory sign could be detected. But that this does occasionally occur, I have now no doubt—1st, from the facts previously given, which show that advanced phthisis may exist without any positive signs; and, 2d, from the following case, which fully confirms the statement made by the distinguished professor of Utrecht:

" **CASE.**—In August, 1854, I was consulted when in London by a lady, Mrs. B., æt. 23, who had for some time suffered from cough, accompanied by muco-purulent expectoration. There was little emaciation, the general powers of the system did not appear to be much impaired, although she complained somewhat of weakness, and diminution of appetite. Frequent cough, with expectoration, were the principal symptoms. Careful percussion and auscultation of the chest (which was well formed) elicited positively nothing: the percussion note was normal and equal on both sides; the respiratory murmurs distinctly audible, soft with their usual rhythm, free from all abnormal murmur—no increase of the vocal resonance. Repeated examination, especially in both subclavicular and suprascapular regions, convinced me of this fact. The practitioner (W. T. Iliff, jun., Esq., of Kennington) who had previously attended her, and who was again subsequently called in, informed me, however, that she herself had an impression, that some time previously (in March), she was in the habit of spitting up fragments of her lungs. Mr. Iliff had taken portions of the indurated matter expectorated to Mr. Quckett, who, in fact, positively affirmed them to be pulmonary substance. At my request, Mr. Iliff was so good as to forward to Edinburgh a portion of the expectorated matter, discharged during the March previous to my seeing the patient—an oblong substance, about one third of an inch long and one sixth of an inch in thickness, presented all the characters of a piece of lung infiltrated

with tubercle. On examining sections of it under a magnifying power of 250 diam. linear, I, with some difficulty (the structure having been preserved in alcohol), determined the existence of circular bundles of areolar and elastic tissue, obscured by a mass of molecular matter in which tubercle-corpuscles were imbedded. That this tissue was really expectorated by Mrs. B., Mr. Iliff entertains no doubt, as he himself removed it from a tenacious mass of expectorated matter. Subsequent to our correspondence on the subject, he also submitted it to Dr. Beale, and Messrs. Quckett and Rainey, of London, all of whom agreed as to the fact of its being a portion of human lung.

“During the winter of 1854-5, Mrs. B. continued tolerably well, and without medical attendance. Mr. Iliff, however, was again called in on the 7th of April, and found that the disease had been slowly progressing. The expectoration was now increased and more purulent, and she had sensibly lost flesh and strength. On the 25th of May, Dr. Latham was consulted. There was then flattening at the left apex, and in his opinion a cavity there. She had also hectic fever, copious night sweats, diarrhoea, haggard countenance, emaciation—in short, the usual symptoms of the advanced stage. From this time, notwithstanding the most judicious treatment on the part of her medical attendant, the disease progressed rapidly, and she expired, July 26th. An examination after death, revealed extensive tubercular disease in both lungs, with cavities in their apices; the left side being the one most affected.

“The facts of this case serve, in my opinion, to establish, that there are instances in which the occurrence of disintegrated lung tissue may be detected by the microscope in the sputum, *before* any auscultatory signs are audible. On this latter point, I may observe that Mr. Iliff could not detect such signs any more than myself, although he was in possession of the expectorated lung substance. There were also particular circumstances connected with my knowledge of the patient’s friends, that made me unusually careful and anxious when making the stethoscopical examination, and certainly, in August, 1854, five months after pulmonary tissue was evacuated, there were no audible signs of phthisis pulmonalis. In reply to a question by me, as to how and when these signs first made their appearance, Mr. Iliff stated that he could not tell, as, for many months, he was not in attendance. But I need scarcely remark that, between August, 1854, and May, 1855, there was ample time for the disease to have progressed to the formation of cavities.

“All the circumstances of this case, therefore, have impressed upon me the importance of a microscopic examination of sputum, whenever the symptoms, and a suspicion of phthisis pulmonalis exist, without any clear evidence being present derivable from auscultation.”

ART. 48.—*The diagnostic importance of Bronchitic signs as preceding and masking Phthisical disease.* By Dr. J. HUGHES BENNETT, Professor of the Institutes of Medicine in the University of Edinburgh.

(*Edinburgh Monthly Journal*, Jan. 1856.)

In this paper Dr. Bennett relates three cases which support the following conclusions :

"1st. That phthisis pulmonalis may exist and prove fatal, and yet, *during the whole of its progress*, only give rise to the physical signs usually considered as indicative of bronchitis with emphysema.

"2d. That such signs, when persistent with all the symptoms of phthisis, should render the physician very suspicious of the existence of pulmonary tubercle.

"3d. That the analeptic treatment of such cases, and the avoidance of cough mixtures, or other means directed to the alleviation of mere symptoms, offers the surest means for procuring arrestment of the disease, and bringing about an ultimate recovery."

In explanation, Dr. Bennett suggests the probability that conditions of the lungs may exist in which the augmented sonoreity of emphysema will so counterbalance the increased dulness of tubercular deposition that the resulting note on percussion may assume a medium character and thereby approach that of health.

One of the three cases will serve in illustration :

"CASE 1.—I was consulted in the case of a young lady, aet. 11, in the year 1845. She had a short time previously recovered from a violent and prolonged attack of hooping-cough, and when I first saw her, complained of dry cough, and occasional difficulty of respiration. On percussion, the chest, on both sides, presented its normal resonance. On auscultation, there was slight harshness of the inspiratory, and trifling prolongation of the expiratory murmur, very general over both sides anteriorly, but especially on the right side, with occasional sibilation. No increase of the vocal resonance anywhere. The patient was a well-grown girl, and had no other complaint or functional disorder, and the conclusion, of course, was bronchitis, with slight emphysema, following hooping-cough. This bronchitis, however, continued, the cough and occasional dyspnoea being sometimes very urgent. When eighteen or nineteen years of age, the latter symptoms sometimes attacked her when dancing, an exercise of which she was very fond, and obliged her to desist. In the autumn of 1853, expectoration of purulent mucus commenced, and the appetite began to fail, circumstances which excited my apprehensions, although nothing was to be heard but sibilation and prolonged expiration; percussion being everywhere clear. The most anxious care was now taken, by means of good diet and exercise, to support the general strength, and with such success that there was no emaciation, and little falling off in her bodily powers. In the spring of 1854, however, haemoptysis commenced, at first slight, but subsequently more abundant, especially at the periods of menstruation. Now commenced, also, languor, weakness, dyspeptic symptoms, pallor of countenance, night perspirations, and other signs of debility, which gradually increased, notwithstanding the use of cod-liver oil and every conceivable means of support. All this time, although it was evident to me that she was consumptive, the most careful examination could elicit nothing but the physical signs formerly noticed, with the addition of occasional sonorous râle posteriorly and inferiorly, mingled with occasional mucous râle. Misty, foggy weather invariably added to her sufferings, while clear, dry weather, notwithstanding the cold, served to revive her. On the approach of winter in 1854, Dr. Christison saw her with me, and confirmed the results previously arrived at from physical examination of the chest, and it was then resolved that she should spend some months at Clifton. During the journey she had a severe attack of haemoptysis, and this symptom prevented her going out for some time. Notwithstanding the assiduous profes-

sional care of Dr. Symonds, the disease progressed, and she died the very day of her return to Edinburgh.

"On examining the lungs, there was found great emphysema anteriorly on both sides, and considerable engorgement posteriorly and inferiorly. The middle and inferior lobes on the right side were hepatized from chronic pneumonia, and the upper lobes on both sides, but more especially on the right, contained circular patches of miliary tubercle, about three fourths of an inch in diameter, irregularly scattered through the pulmonary tissue, communicating to it, when pressed on externally, a nodular character. Between these isolated patches the lung was, with the exceptions just noticed, quite healthy.

"In this case, which I occasionally saw during a period of ten years, I am satisfied that the ordinary physical signs of phthisis never were present. There was never dulness on percussion, or any indications of softening or of a cavity, and the post-mortem examination betrayed a condition of the lungs which proved that the signs of bronchitis and emphysema, which had been present throughout her illness, were true indications of what really existed. The pneumonia, the more immediate effects of which caused death, was of comparatively recent occurrence, and the time of tubercular deposition cannot be fixed with certitude, although, judging from the symptoms, I am inclined to consider that it dated from the spring of 1854. Here then we have chronic bronchitis and emphysema, terminating in phthisis, without any physical sign being manifested indicative of the latter lesion throughout the whole course of the disease."

ART. 49.—*On the Arthralgia of Phthisical patients.* By M. J. H. G. BEAU.

(*Presse Méd. Belge*, Jan. 3, 1856; and *Dublin Medical Press*, Jan. 30, 1856.)

"Under this term I comprehend settled pains in the limbs of phthisical patients. M. Tanquerel was the first to make use of this expression to designate the acute pains which affect the limbs in cases of saturnine intoxication, correctly remarking that the word *ἀρθρόν* was employed by the Greeks to signify indifferently limb or articulation.

"The same name, arthralgia, might be given also to those pains in the limbs which mark the third degree of scurvy, and which have been pointed out by the different writers on that disease.

"In phthisis, then, as well as in saturnine poisoning and scurvy, we meet with pains of greater or less intensity affecting the limbs. It is those pains, which are nowhere described or even mentioned, that I am about to bring before my readers, by giving a succinct history of them under the name of the arthralgia of phthisical patients.

"I would first state that these pains show a decided preference for the lower limbs. During about two years that my attention has been directed to the observation of this symptom, I have only once seen the arthralgia settled at the same time in both the lower and upper extremities. I may add that it is very rarely confined to one lower extremity. Almost always it affects both limbs at once, although it is often less intense on one side than on the other. In like manner the arthralgia is seldom limited to the thigh, the leg, or the foot; it almost invariably occupies both lower limbs in their entire extent.

"The character of the pain varies a little in individual cases. Thus it is sometimes described as an intolerable sensation of rending or bending; at others it is lancinating, and appears to follow the course of the nervous branches.

"Its intensity is also very variable; some phthisical patients scarcely suffer from it, while in others it is insupportable. I have frequently known this arthralgia elicit groans from the sufferers, and completely deprive them of sleep. Sometimes the pain, especially when it is of recent occurrence, is excited only by pressure; but it soon becomes spontaneous, and in this case, when it is very intense, the slightest touch is sufficient to make the patient cry out.

"This pain is continuous, but it is subject to exacerbations, supervening chiefly during the night; it is never accompanied with convulsive movements of the muscles. I have remarked that when it is very acute, the limbs are flexed and the muscles relaxed; the patient can neither extend nor make use of his limbs.

"It is very difficult to localise these pains. They affect the lower limbs in a mass, without our being able to fix their seat in the nerves, the muscles, or the osseous tissue, either during life, or even after death.

"This arthralgia is met as a prominent symptom in scarcely more than a fourth of the number of those who die of pulmonary tubercularization. It generally shows itself along with the symptoms which constitute the third or colliquative period of pulmonary phthisis.

"It is observed particularly in the cases in which the emaciation is very great, where the fever is high, especially in young subjects of the female sex.

"Sometimes it is complicated with simple œdema of the lower limbs, and one would be tempted to diagnose a case of this kind as one of phlegmasia alba dolens, which is often enough observed in phthisical patients. This error may be avoided by observing that in phlegmasia the skin is tense and does not retain the impression of the finger, while in ordinary œdema it has not these characters; and, moreover, in phlegmasia it will often be possible to feel with the fingers the inflamed venous cord, while in the simple œdema, complicated with arthralgia, nothing of the kind can be observed.

"The prognosis of this affection is very unfavorable. I have never seen tuberculous patients who suffered from it, I will not say get well, but even experience an alleviation of their disease. It indicates that the subject of it labours under a fatally and rapidly progressive consumption.

"The treatment can, consequently, be only palliative. It consists in the external and internal use of the preparations of opium, which occasionally procure relief. Pains of this nature are often relieved by enveloping the limbs in hot cloths."

ART. 50.—*Hourly Pulsation and Respiration in Phthisis, with its relation to Sleep, Food, and Sunlight.* By Dr. EDWARD SMITH, Assistant-Physician to the Hospital for Consumption at Brompton.

(*Lancet*, March 22, 1856.)

The author commences this paper (which was read before the Royal Medical and Chirurgical Society on the 11th of March, 1856,) by stating that this investigation was made in June, 1855, and embraced the rate of pulsation and respiration at each of 144 consecutive hours, or six days and nights, in three women and three men, aged twenty, twenty-two, forty, forty-one, and forty-five years, all of whom had cavities in the lungs, but were able to take sufficient food and exercise. The rate was ascertained in the recumbent position, and for this purpose the patients were required to lie down five minutes before each hour. The author first discussed the rate of pulsation, and then that of respiration; and under each head considered the rate both absolutely and as influenced by disturbing causes. The paper was accompanied by numerous tables and diagrams. He ascertained that pulsation is lowest from one to five a.m., and highest from ten a.m. to ten p.m. The effect of sleep is to lower pulsation, and of food commonly to raise it; but the rate of the pulse was increased if the patient rose earlier than usual, without taking breakfast at an earlier hour. The variations in the temperature of the hospital at different hours were very slight, and did not appear materially to influence the pulse. Moderate and gentle exercise also produces little effect, while sunlight powerfully excites pulsation. Respiration in phthisis is constantly much more rapid during the night than in the day; food also produces a well-marked effect in increasing the frequency of respiration. There is a closer correspondence between the temperature and respiration than between temperature and pulsation, but the hours of maximum and minimum respiration did not accord with those of temperature. The effect of sunlight upon the respiration in phthisis appeared to be null. The ratio of the rate of respiration to that of pulsation in phthisis varies with every hour of the day and night, but it is highest in the night, when the pulsation is the lowest, and the respiration highest. The lowest ratio observed was 1 to 5.8, and the highest 1 to 1.4. The author inferred from his investigations that, as profuse perspirations occur in phthisis during sleep, and as in both day and night sleep the pulse is lowered, and to a very great extent in the night, he considers that the former may much depend upon the latter; and acting upon this impression, he has exhibited food during the night with great advantage in preventing perspirations. As day sleep does not depress the pulse so much as night sleep, the perspirations may be somewhat prevented by curtailing the former and encouraging the latter. He also recommends early rising, care being taken to exhibit food accordingly. Too much sunlight should be guarded against in summer; while its deficiency in winter, and in close, dark streets and alleys is likely to maintain the state of low vitality which is so essential a part of the disease. The low state of pulsation maintained by many

hours of darkness, with the increased ratio of respiration during sleep, indicate the necessity for the administration of nutritious food during the night, and this will also allow the meals taken during the day to be moderate in quantity, and so lessen the unnatural day elevation of the pulse. This might also be accomplished by exhibiting oleaginous substances, as the cod-liver oil, the last thing at night. The author thought that the aim should be, to increase respiration disproportionately to pulsation. This may probably be effected by remedies which give tone to the system, but it is shown to be accomplished by food, and especially by sleep. Hence the due cultivation of the horizontal posture, with frequent food and day sleep, are indicated; early retiring to rest had also the same effect. The author referred to the low ratio of respiration to pulsation, which had been found to exist in persons of unusual stature, and in the early stage of the disease.

ART. 51.—*On the correlation of Phthisis and Diabetes.*

By M. LEGRAND.

(*Gaz. Méd. de Paris*, Dec. 1, 1855.)

On a recent occasion M. Legrand brought before the French Academy of Sciences the notice of a case which was calculated to illustrate this correlation—a correlation which was first pointed out by Dr. Copland.

The particulars of the case are not given in the account to which we have access, but it appears that the patient had suffered from diabetes for some time, with considerable disturbance of the digestive functions, but without any obvious signs of pulmonary disorder. Under proper treatment the dyspeptic symptoms gave way, but there was no diminution of the sugar in the urine. On careful examination, afterwards, symptoms of latent phthisis were detected.

The inference drawn by M. Legrand is that the diabetes was caused in this case by the pulmonary disease—the sugar of the liver not being properly burnt up in the lungs, and so finding its way into the water; and he thinks that this is often the case in diabetes. He concludes, indeed, that, to be treated successfully, diabetes must be treated as a symptom of phthisical disease, rather than as a special affection.

ART. 52.—*Treatment of Hæmoptysis.* By M. ARAN.

(*Gaz. des Hôpitaux*, 1855, No. 94; and *American Journal of Medical Science*, April, 1856.)

M. Aran condemns the employment of bloodletting in the treatment of hæmoptysis, believing that it only temporarily arrests the bleeding, while it is dangerous from the debility and increased susceptibility to the intercurrent affections it gives rise to. He has for some time past been engaged in testing the efficacy of various haemostatic agents employed in hæmoptysis; and in this paper he gives the results of his observations. He considers the essence of turpentine a most valuable remedy, given in doses of from 10 to 30 drops every hour, either in a spoonful of water, or mixed up with magnesia as a

bolus. Marked amendment usually occurs in a few hours, and in from twenty-four to thirty-six hours the bleeding ceases. It is less suitable for young or plethoric subjects with febrile action, than in weak cachectic individuals, exhibiting atonic characteristics. Ergot of rye and ergotine are far less efficacious; but chloride of sodium, given in doses of 1 to $2\frac{1}{2}$ drachms proves very efficacious in some cases, and has the advantage of being always at hand. Among the astringents, tannin, and especially gallic acid, are to be recommended; the latter, while quite as efficacious, does not exert the same desiccating effect upon the tissues, or induce the obstinate constipation produced by tannin. As a mean dose, M. Aran gives 15 centigrammes (a centigramme is $\frac{1}{7}$ grain) every hour or alternate hour. He has had little experience in the use of emetic and nauseating remedies; but in three cases in which veratrine was employed, the bleeding ceased as if by enchantment. This class of remedies, indeed, would deserve to stand in the first class of haemostatic agents, were there not others possessing like efficacy, and yet not giving rise to the painful nausea these produce. M. Aran has derived great advantage from the combined use of digitalis and nitre. In ordinary cases, he gives in the twenty-four hours, 30 centigrammes of digitalis, and $1\frac{1}{2}$ gramme (a gramme is 15 grains) of nitre, divided into four doses; but in very severe cases, these doses may be very much increased, so that the digitalis has been given to the extent of $1\frac{1}{2}$ gramme, and the nitre to 4 grammes, without injuriously affecting the action of the heart, while the effect produced on the hemorrhage has been remarkable. Its arrest never, however, takes place so suddenly under the use of these medicines, as when turpentine or gallic acid is employed.

In abundant, but not immediately dangerous hemorrhage, we can choose among any of the above-mentioned means. In extremely abundant hemorrhage, we must arrest the flow as speedily as possible, by agents which do not depress the powers of the economy too much, and which are not too slow in their operation. Neither ergot, acetate of lead, nor alum is sufficient to meet the danger. Turpentine, gallic acid, chloride of sodium, or nitre with digitalis can alone be trusted; but the necessity of increasing the dose with the intensity of the hemorrhage may, perhaps, render the chloride of sodium, and especially the nitre and digitalis, dangerous, through the possibility of the production of a too great depression of the heart's action. It is, therefore, to gallic acid or turpentine that we must chiefly trust in these severe cases; and we must not limit ourselves to their employment, but also endeavour to procure a temporary arrest of the hemorrhage by ligatures to the limbs and the application of ice to the chest, allowing the means employed internally to consolidate this temporary cure.

ART. 53.—On the efficacy of small doses of Morphia in certain Chest diseases. By Dr. EDWARD SMITH.

(*Assoc. Med. Journal*, Jan. 19, 1856.)

The dose referred to by the author is from the $\frac{1}{64}$ th to the $\frac{1}{32}$ th of a grain for an infant or young child, and from $\frac{1}{20}$ th to $\frac{1}{12}$ th of a grain for

an adult, repeated from three to six times in the twenty-four hours. The principle involved is the removal of excessive cough in those cases in which the cough resulted from nervous irritability of the structures of the air-passages, and the consequent prevention of the various ill effects which would follow from the continuance of the cough.

The author shows that the effect of minute and often-repeated doses of morphia was far more efficacious than occasional and larger doses; and that the sensorium remained quite unaffected, and the bowels nearly so, under its influence, and therefore that no disturbance to the general system was produced by its administration.

The author selects three diseases in illustration of the merits of the remedy—viz., hooping-cough, the ordinary and spasmodic form of chronic bronchitis, and phthisis.

Hooping-cough he regards as essentially a disease of the nervous system, quite apart from inflammation, and considers the principle of treatment to be the removal of the spasm, so that the cough might be reduced to the harmless state of a common cough. He believes the secretion to be chiefly due to the violence of the cough, and consequently that the aim should not be to increase the secretion by expectorants, but to stop the cough and allow the secretion to cease. He is also of opinion that the congestion of the lungs in more advanced cases, which often leads to other complications, is chiefly due to the spasmodic cough. The treatment recommended is, first, to remove all sources of irritation; to give nutritive food in small quantities, and very frequently; to expose the patient to cool pure air, and in general to place it in the best sanitary conditions, and then to administer morphia. The system adopted in giving the morphia is, to begin with a very small dose ($\frac{1}{64}$ th of a grain to an infant four months old), and, if need be, to rapidly increase it until the slightest drowsiness was perceptible, and then to regard that effect as the measure of the dose, and to continue the dose and effect until the spasm subsided. Any dose less than sufficient to affect the sensorium in the slightest degree was insufficient for the immediate cure of the disease; and therefore the art in the administration was to produce and maintain that effect in the quickest way, and with the smallest dose. After giving the $\frac{1}{64}$ th of a grain for three or four doses, without any drowsiness, he would then increase it to the $\frac{1}{48}$ th of a grain for three or four more doses, and again, if need be, to the $\frac{1}{38}$ th and the $\frac{1}{32}$ d of a grain, until the slightest drowsiness appeared. Thus the proper dose would soon be ascertained, and within one or two days the spasm would be materially lessened.

He states that within four, and commonly within ten days, he has cured severe cases so far as to reduce the spasmodic to a common cough, and to prevent the occurrence of any complication. The points he especially urges are, the rapid increase of the dose to produce the desired effect, and the careful maintenance of the effect by regulating the dose. He insists upon the necessity of using a graduated measure in the administration of the remedy.

Chronic Bronchitis.—The attacks of this disease commonly seen in the *habitués* of hospitals, Dr. Smith believes not to be inflammatory,

but nervous or spasmodic, both in the cough and the dyspnœa, and also even in the sense of constriction of the chest; and that the aim should not be to increase the secretion, but simply and purely to remove the nervous condition on which the cough, secretion, dyspnœa, and tightness, depend. The cough he believes to be much more than needful to remove detached phlegm, and, by its continuance, to excite the secretion; and he infers that, when relief was obtained with the increase of secretion, the former was not due to the latter, but both resulted from exhaustion of the nervous irritability by lapse of time. He therefore commonly banished expectorants, and administered small doses of morphia. The dose was usually $\frac{1}{16}$ th of a grain, repeated three or four times a day. Very speedily the cough was relieved, and then the dyspnœa, and at the same time, or subsequently, the sense of tightness. He maintains that the same remedy which first relieved the cough only would, by continuance or increase, relieve the dyspnœa also. As a preliminary step, all sources of irritation are attended to, especially the liver, stomach, and bowels. The croton-oil liniment was efficacious only on the principle laid down by the author, and not upon the relief of any supposed inflammatory action.

Phthisis.—The exhibition of small doses of morphia in phthisis is not with a view to cure that disease, but to lessen or prevent the occurrence of certain important complications which the author believed to be in great part due to the cough; such were haemoptysis, congestion on inflammatory action, vomiting after food, increase of night perspiration, disturbance of sleep, and the increase of the general irritability of the system. He is decidedly of opinion that, in all stages of the disease, the cough is commonly greater than is required upon the principle of relieving the system; and therefore, and because it leads to further evils, it ought to be arrested. He especially refers to two periods: first, in the early stage, when there is scarcely any secretion, and when the patient voluntarily adds to the cough to remove a little phlegm which he believes to be the cause of the cough. He considers it essential to disabuse the patient's mind of this error, and by that means, and by the aid of morphia, to arrest the cough. Second: he has ascertained that the vomiting of the food after meals was not usually due to disorder of the digestive organs, but to cough accompanying an irritable state of the general system, and a state of repletion of the stomach; and he had commonly prevented it by reducing the quantity of food at each meal (giving the food more frequently), and by administering $\frac{1}{16}$ th of a grain of morphia immediately before or after a meal, as well as at the usual intervals during the day. A more tranquil sleep and less severe night sweats resulted from the small dose of morphia, repeated once or twice in the night, than when one large dose was given.

In some of the above conditions, he considered the cough to have the importance not merely of a symptom, but of a substantive disease, and, as such, to require especial attention in the treatment; but, as it was oftentimes associated with constitutional ailments, he frequently combined the morphia with vegetable bitters, and with the sesqui-chloride of iron. He preferred morphia to other narcotics, because

its strength is more uniform than that of vegetable extracts, and more permanent than that of hydrocyanic acid ; and, upon the whole, it was as easily capable of minute subdivision and increase in its dose, and was less dangerous in its administration.

ART. 54.—*On a self-adjusting double Stethoscope.* By Dr. POLLOCK, Assistant-Physician to the Hospital for Consumption at Brompton.

(*Lancet*, April 12, 1856.)

“ Since the first discovery of auscultation, and its general use, many attempts have been made to obtain an instrument which shall combine simplicity of construction with a high conducting power, and various modifications of the ordinary stethoscope are familiar to all of us. To those most accustomed to the investigation of chest disease, the instrument is but of slight importance, and an accurate estimate of the chest sounds can no doubt be easily made with a simple cylinder, such as Laennec used, or by any of the ebony, cedar, deal, or mahogany tubes which abound in the shops. It is truly to the tact of the observer, and not to the medium applied to the chest, that we owe precision in auscultation ; and provided that the instrument be simple, the bore true, the ear-piece easily adjusted to the ear, and the bell so expanded and flattened as to oppose a convenient surface of contact to the chest, we may leave the material of the single instrument to individual taste or fancy. Some will use a solid instrument with precision, whilst, strangely enough, others maintain that the air in the tube is the conducting medium ; but on this point I will only stop to remark, that metal, deal, box, ivory, cedar, &c., solid and perforated, may be used with nearly equal facility, and that, having acquired by practice the ‘hearing ear,’ the observer of chest disease may be content to leave refinements of construction to the instrument-maker.

“ The increase of sound to be gained by using both ears at once, while all loud external noise is excluded, is, however, a means of obtaining new information on the exploration of the chest, which has excited the attention of several careful auscultators. Many years ago, Dr. Williams used a double metal tube with two flat ear-pieces,* and adapted to the bell of an ordinary stethoscope, which, except for its inconvenience, would fully answer the above indications, and give great increase of conducting power. M. Landouzy, of Paris, in 1850, constructed an instrument having a number of gum-elastic tubes, by means of which several persons could listen at the same time. In 1851, Dr. N. B. Marsh, of Cincinnati, patented a stethoscope with two gum-elastic tubes, and a membrane over its objective end, which required both hands to keep it in position. More lately, in this country, Dr. Leared has made a double instrument with gutta-percha tubes.

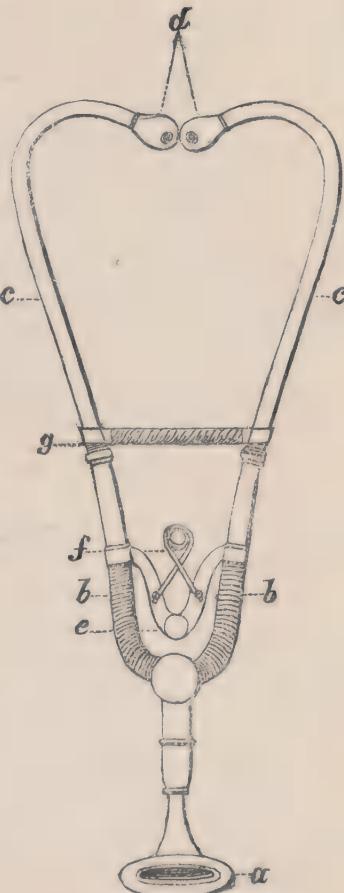
“ In January, 1855, Dr. Camman, of New York, had constructed

* This and various ingenious modifications of the ordinary stethoscope, constructed for experimental purposes, were kindly shown me by Dr. Williams, on the occasion of his trying the powers of the American instrument now described.

with great care a double self-adjusting instrument, of which the engraving is taken from the 'New York Medical Times' for that month. Dr. Coulson, of Castle Donington, Leicestershire, having been favoured by Dr. Camman with one of his instruments, the former gentleman most kindly placed it at my disposal for experimental purposes. The instrument is fourteen inches long; the tubes are of German silver, with a double curve towards the aural extremities terminating in ivory knobs, which, when applied, should rest closely against the external openings of the ears. The bore is two lines and a half in diameter, and smooth throughout. Dr. Camman dwells much on the accuracy of the curves, and conceives that the sounds conveyed are thereby increased; but it is doubtful if this be the case. Without these curves the instrument would not be capable of self-adjustment. The elastic band or spring retains the aural ends in contact with the ears, and leaves the hands free.

"It will be observed, then, that we have here a very perfect instrument, which conducts the chest sounds to both ears at once, and excludes all ordinary external sounds. The results of many experiments with it prove that it is a great intensifier of sound, acting to the ear the part which a powerful lens performs to the eye. All sounds are magnified many times, and some which were inaudible by the ordinary instrument are revealed to the ear. The healthy respiratory murmur heard through it is a loud blowing, almost like the entrance of air into a smooth cavity, as heard through the single stethoscope. In intensifying, it of course alters the *character* of chest sounds, which, generally speaking, are lowered in *tone* by it. Again, as many magnifying glasses of great power are bad definers, so the ear is apt to be confused by the loudness of the sounds heard, and some practice is therefore necessary to ensure accuracy in estimating the modifications of healthy or morbid respiration.

"The dry sounds are more accurately conducted than the moist; a pure friction, as in the early stage of pleuritis or pericarditis, is rendered very intense; and the dry crepitus occasionally heard in the early stages of phthisis is greatly developed. The same remark is applicable to the wavy or interrupted inspiration. The healthy expiratory murmur, which (as heard in the single stethoscope) is in duration, when compared with the inspiration, as 1 to 5, becomes



a. Objective end. b. Two gum-elastic tubes. c. Two metallic tubes. d. Two ivory knobs at aural extremities. e. Hinge-joint. f. Spiral spring. g. Elastic moveable spring.

prolonged when conducted by this instrument; and, without a knowledge of this fact, the observer would therefore argue some solidification of the lung as the cause of its increased audibility. This observation will at once illustrate the power of the instrument as a conductor, and the special study of it which is necessary before drawing any inference from its use. The voice sounds are greatly intensified, an ordinary pectoriloquy becoming almost startling from its loudness. The heart's sounds are magnified, but more precision in their conduction is to be gained by the use of the ordinary stethoscope. Morbid cardiac sounds are never difficult to *hear*, though their origin may be occasionally obscure; it is therefore plain that a magnifier of sounds would not assist the diagnosis. Certain low and indistinct murmurs, in aneurisms within the chest, might possibly be revealed by its use, which would be otherwise unheard.

"Slight differences in the percussion note are rendered very manifest by applying this instrument to the ears, and holding the bell near the part of the chest percussed, which may be done either by the observer or another person, the self-adjusting power of the stethoscope leaving the hands free. It is obvious that the foetal heart-sounds, and the (so-called) 'bruit placentaire,' in pregnancy, may be heard at a very early period, and that in doubtful cases of fracture a crepitus, undistinguishable by the single stethoscope, would most likely be detected. In applying it to the chest, it is absolutely necessary to remove the dress, as the slightest friction masks all other sounds; its perfect adjustment, so that no air may enter under the edge of the bell, is also requisite.

"It is plain, from the above remarks, that some practice is necessary to enable us to profit by the increased powers of this stethoscope, as all the sounds are exaggerated, altered in tone, and therefore unlike those which we at present recognise by the aid of the old instrument. It is also evident that it is not likely to displace the latter in daily use, the sounds in which, duly recognised, are sufficiently accurate, and, above all, so universally known, as, in the judgment of skilful observers, to lead to a satisfactory diagnosis. Nay, further, it is little likely that advances in our knowledge of chest affections are to come through improvements in mechanical devices for measuring or rendering manifest physical alterations in the respiratory organs; but there are various physiological and experimental uses to which such an instrument as this may be applied, and it may also prove a valuable assistance in the investigation of disease. I may add that Mr. Coxeter, of Grafton Street, has, under my directions, constructed with great care some of these instruments."

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 55.—*A case of very extensive Suppurative Carditis.*
By M. OPPOLZER, Professor of Clinical Medicine at Vienna.

(*Wochenbl. d. k. k. Gesell. d. Aerzte z. Wien*, No. 21, 1855.)

This case is sketched with very great brevity.

CASE.—A strong man, after violently exerting himself by dancing in the open air, experienced extreme precordial anxiety, and expectorated several clots of mucus streaked with blood. He remained almost pulseless until his death, which happened seventy-two hours after the occurrence of these symptoms. During life, the heart beat with extreme feebleness, and the beats were accompanied with to-and-fro rubbing sounds, which were supposed to be indicative of pericarditis; and after death, the entire substance of the left ventricle, and a part of the right ventricle, were infiltrated with pus. This is all that is said about the case.

ART. 56.—*Case in which the Pericardium was tapped, and Iodine injected successfully.* By M. ARAN.

(*Medical Times and Gazette*, April 12, 1856.)

M. Aran, physician of the Hôpital St. Antoine, at Paris, lately brought before the Academy of Medicine the case of a young man, 23 years of age, who was admitted under his care in July, 1855, with all the symptoms of severe pericarditis. The patient had been treated for pleurisy in the same hospital a few months before, and there was reason to believe that tubercles had formed in the lungs. As the young man was, on his second admission, very weak, and affected with diarrhoea, the antiphlogistic treatment could not be used with sufficient energy; and the inflammation of the pericardium, far from becoming subdued, was speedily followed by effusion. The liquid was so abundant, that very severe fits of dyspnœa came on, and M. Aran therefore resolved to tap the pericardium.

Though physician to an hospital, he performed the operation himself, with a small-sized trocar and canula, the direction being from below upwards, in the fifth intercostal space, a little below the spot where the dulness on percussion was well marked. The actual extent of the distended pericardium was figured by concentric lines drawn on the chest, and the actual situation of the heart carefully ascertained by auscultation. About twenty-eight ounces of a reddish transparent serosity escaped, with great relief to the urgent symptoms which had called for the operation. An injection was then thrown into the cavity of the pericardium, composed of an ounce and a half of water, half an ounce of tincture of iodine, and fifteen grains of iodide of potassium. The injection was well borne, and a few drachms of the liquid having been allowed to flow out, the wound was closed by compresses.

The symptoms, however, returned, and twelve days after the opera-

tion tapping was again had recourse to, when forty-nine ounces of a greenish albuminous liquid escaped. A stronger iodine injection was now used. The operation gave the patient neither pain nor uneasiness, and in the space of ten days the dulness had considerably diminished. But as the heart and pericardium improved, the lungs grew worse; symptoms of tubercles became more plain, and dropsical effusions in various part of the body appeared. The latter symptoms were removed by blisters and vapour baths, and the patient finally recovered so far as the affection of the pulmonary organs would allow; but the bold treatment used for the pericarditis with effusion was completely successful.

ART. 57.—*On the effects of Lead on the Heart.*
By Dr. CORSON, Physician to the New York Dispensary.

(*New York Journal of Medicine*, March, 1856.)

The evidence in this paper, in Dr. Corson's opinion, tends to establish the following conclusions:

1. That allowing a due excess of force to carry on the embarrassed circulation in organic affections of the heart, it appears that certain symptoms in slow poisoning from lead, as well as in cardiac disease proper, typhus fever, and apparent death from catalepsy or other causes, all tend to prove that, as a rule the *impulse* may be termed the *pulse of the heart*; and that, its more careful study than heretofore may aid us in the general diagnosis and treatment of disease.
2. That the symptoms of weakening of the heart in lead poisoning, are confined to cases of *partial paralysis*, or *general muscular debility*, accompanied usually by the purple streak of the gums, indigestion, constipation, pains in the head, muscles, or joints, and sometimes by lead jaundice; and that commencing and emphasising with the most frequent, these heart symptoms from lead are: *weakened or soft tapping impulse*; *faintness on unusual exertion*; feeble and generally slow pulse; palpitation; cardiac uneasiness: and to these are occasionally added, great despondency or morbid fear of death; suspicions of organic disease of the heart, fainting fits, night-mare, or troubled dreams.
3. That these depressing heart symptoms are absent in the earlier and more acute stage of lead poisoning, known as "*lead colic*," when, on the contrary, the stimulus of pain generally renders the impulse of the heart and the pulse at the wrist more firm than natural.
4. That skill in the detection of minute variations in the impulse of the heart, naturally requires a little careful attention and practice.
5. That these debilitating effects of lead most commonly occur in hearts previously sound, but they sometimes complicate existing organic cardiac disease from rheumatism or other causes.
6. That the agencies or causes of lead poisoning are very numerous, and often obscure; and that slighter cases supposed to be ordinary dyspepsia, constipation, debility, or bilious colic, are frequently undetected.
7. That the above tests of the immediate influence of lead on the heart in disease, are further corroborated by experiments upon animals;

showing that, more mildly and slowly, *lead*, like digitalis, oil of tobacco, upas antiar, the woorara, and some other poisons, tends specially to paralyse the central organ of the circulation, and like these, ultimately to produce what Bichat termed "*Death by the heart.*"

8. That the remedies for the paralysing influence of lead may be divided into two classes: *Disinfectants*, such as the iodide of potassium, and preparations of sulphur; and *Antiparalytics*, such as strychnia and electricity; that the best treatment combines these two elements, and that, on the whole, the most convenient and efficacious are free doses of the iodide of potassium, and minute proportions of strychnia or nux vomica.

9. That the above conclusions are founded mainly on the evidence of ten cases, principally among the badly nourished and improvident poor finally resorting to public institutions; and they may possibly be somewhat modified in future by more extended observation in private and more favorable practice.

ART. 58.—*Obliteration of the Thoracic Aorta.* By M. SKODA.

(*Wochenbl. der Zeitschr. der k. k. Gesellsch. der Aerzte zu Wien*, Nov. 5, 1855; and *Medico-Chir. Review*, April, 1856.)

"At a meeting of the Medical Society of Vienna, held on the 19th of October, 1855, Professor Skoda introduced a man affected with obliteration of the thoracic aorta. In illustration of the lesion, the Professor exhibited preparations of a five-months' foetus and of a new-born child, in which he indicated the point at which alone this anomaly can take place or has hitherto been observed. It is the point at which the ductus botalli communicates with the aorta and the short space intervening between this point and the origin of the left subclavian artery. During foetal life, this portion is commonly narrower than the remainder of the aorta, and only acquires the same calibre after birth.

"The individual in question was a man aged forty-seven; a jeweller; of normal complexion, and throughout well nourished. On the whole, he enjoys good health, and has only come under clinical observation owing to his having, for three years past, suffered from some dyspnœa in making violent exertion. This is due to an insufficiency of the tricuspid valve, which has only been established for three years.

"The following are the grounds upon which Professor Skoda has diagnosed a coexisting obliteration of the aorta: In addition to the blowing murmur coincident with the impulse, and which indicates the above-mentioned insufficiency, a 'peculiar vibration or whirring (schwirren) is to be perceived over the greater part of the thorax, partly by palpation, partly, as in the course of the intercostal arteries, by auscultation; it follows the impulse, and for that reason has its seat in the arteries. The vibration of the arteries of the thorax is due to their dilatation, as may be shown by touching the superficial epigastric arteries, which are much dilated and very tortuous. The beat of the crural arteries at the groin is very feeble, and no pulsation can be felt in the abdominal aorta.'

"These are the indications characteristic of obliteration of the tho-

racic aorta ; the collateral circulation is carried on by the branches of the subclavian arteries, which must therefore be dilated. A large volume of blood passes from the anterior intercostals to the posterior intercostal, and by centripetal movement reaches the descending aorta, which is thus filled with blood sufficient to supply the arteries of the intestines, but not sufficient to produce distinct pulsations. The inferior extremities probably also receive a supply by the anastomosis of the superior and inferior epigastric arteries. No cyanosis is observed, because nowhere venous blood is introduced into the arterial system.

"In connection with this case, Professor Skoda made the following remarks: 1. That in examining the heart, we occasionally perceive murmurs which give rise to the assumption of valvular disease, while the heart is afterwards found healthy ; and that the murmur was produced in the coronary arteries or in other arteries, in the vicinity of the heart. Such errors can only be avoided by carefully attending, as in the case detailed, to the coincidence or non-coincidence of the murmur with the movements of the heart. 2. The circumstance that the nutrition of the individual was unimpaired, although the circulation in most of the organs must be, doubtless, slackened, proves that the deranged nutrition, so frequently coinciding with impediments in the circulation, does not depend solely upon the latter.

"Professor Skoda was of opinion that the obliteration of the aorta was due either to a complete obliteration or absence of the corresponding portion of aorta in the foetus, or to the contraction of the latter coincidently with the ductus botalli, owing to the exceptional extension of the tissue of this channel into the coats of the aorta. Professor Skoda maintained that the obliteration could not be set down to inflammation, as arteritis led, not to obliteration, but to aneurism. He referred to an analogous case which had occurred in his wards some years previously, where no disturbance of function was manifested until, accidentally, endocarditis supervened. Death occurred later from pneumonia ; and the obliterated aorta has been preserved in the anatomical museum of Vienna."

ART. 59.—*Case of Rupture of the Aorta.*

By Dr. G. W. SMITH, Penang.

(*Edinburgh Monthly Journal*, Nov., 1855.)

This case is thus related :

CASE.—"31st July, 1855, I was called at half-past five p.m. to attend Mr. G. B.—, aet. 47, married and having a family, who was said to be in a fit. He was upon a couch, looking deadly pale, very anxious, bathed in a cold, profuse perspiration, and with a weak, quick pulse. He complained of great weakness, of *severe* pain across the middle of the chest, and in the neck ; but there were neither cough nor difficulty of breathing. He said that he suddenly felt sick, giddy, and would have fallen, but for the support of a friend. During the previous part of the day, he had experienced no indisposition, and only a short time before had eaten dinner with usual appetite, but was a little fatigued from having been up all the previous night, watching a person in an apoplectic fit, and was taken ill when about to accompany the funeral of the

body of that individual. On inquiry, he added that for some months back, he had felt short of wind on going up hill, but did not experience the same on ascending a stair, and had been subject to rheumatic pains (as he termed them) about the chest and neck, but was not liable to palpitation, and considered himself in the enjoyment of good health. He was a man of short stature, rather robust than square, and of quick dogmatic temperament; a missionary by profession, and performed the duties of a preacher and teacher, and for some years had also been a little engaged in agricultural pursuits; his habits were strictly temperate.

"He was conveyed to his house, about half a mile distant; a mustard poultice was applied to the chest, a little spirit of lavender administered, and his damp clothes removed. He felt somewhat relieved, after the mustard acted, of the pain of the chest, but still complained much of that of the neck. At seven p.m., when I left him, the skin had regained a natural warmth, the pulse was improved, but the countenance was still very pale.

"I learned from Mrs. B—, that Mr. B—, although usually, to all appearance, in good health, had yet, during the last year and a half, repeatedly complained of being sick and faint, requiring him to lie down for a moment, to recover; and that this was especially the case after food; but in these attacks there was nothing that excited her alarm.

"I warned her that there probably was serious organic disease of the heart or arterial system, and advised that the usual medical attendant, who was then absent, should be consulted.

"1st August, at half after three a.m., was sent for in a great hurry, and on my arrival a few minutes after, found Mr. B— dead. It seemed that, about nine last night, the pain of the chest returned, that of the neck continuing persistent; but as they were deemed rheumatic, no particular alarm was taken. He continued to suffer in that way, more or less severely, up to three a.m., when, sitting up in bed, he suddenly called out, 'Another fit, a fit,' and dropped down. He was thought by Mrs. B— to have fainted, and she used such remedies as occurred to her for that, for some time before she discovered that he was dead.

"*Diagnosis.*—Internal hemorrhage, which had by some means been arrested for a while, and then returned with fatal effect.

"*Autopsy.*—Five hours after death, in presence of Mr. Williamson, of the Madras Medical Service, and of Mr. Rose, of the Bengal Medical Service, the medical attendant of the family, who could not be present at the beginning, but arrived during the course of the examination.

"The external appearance of the body bloodless. The thoracic and abdominal cavities being laid open, and the innominate vein being wounded in reflecting the parts, blood flowed from it, and oozed also freely from the sections of the swollen veins. There was a considerable deposition of fat between the layers of the abdominal parietes, and fat was also abundantly found deposited in the omentum. A cursory inspection only was made of the abdominal viscera, and all appeared healthy. There was some old adhesions of the pleura costalis and pulmonalis, at the apex of right lung. The left pleural cavity contained several ounces of serum. The pericardium being slit open, exposed to view a large amount of coagulated blood, which being removed, extravasation was observed beneath the cellular covering of the aorta. The lungs, heart, and pericardium, as well as the aorta and a portion of the innominate and left carotid and subclavian arteries, were all carefully removed from the body. The lungs being found healthy, were detached from the rest. The different cavities of the heart were then laid open, in succession, and were found empty; and all, as well as their respective valves, were, so far as we could see, free

from disease. The pulmonary artery was then slit open, from its origin to its division, and exhibited nothing abnormal, nor did the valves between it and the ventricle. The cellular substance and pericardial covering having been dissected off the aorta, extensive extravasation was seen to exist between the external and middle coats of that vessel, from its origin to the giving off of the large vessels of the neck, and to a small extent along their course. The aorta was then slit open from its origin to nearly where it perforates the diaphragm, to which extent it had been removed. Throughout the upper part, as far as the giving off the large vessels of the neck, there were numerous deposits of the atheromatous degeneration in and beneath the serous coat, varying in size; some being mere points, two or three about as large as a sixpence, but none very prominent, so as to project much into the vessel; and the interior of the vessel was studded with small holes, some of which were sufficiently large to admit the round end of a surgeon's probe, which perforated the inner and middle coats, and admitted the probe to the extravasated blood, observed between the external and middle coats. A rupture of the inner and middle coats of the vessel, of several lines in extent, was discovered at the origin of the innominate artery, and another of smaller extent at the origin of the left carotid. Through these ruptures the blood had escaped, and separated the external from the middle coats, throughout the whole circumference of the aorta from the ruptures to its origin, and a thin congestion lay between them, but no deposit of fibrine. The external coat had given way near the heart, and allowed the blood vent into the pericardial sac. The aorta was not dilated throughout any part of the extent of it examined, and the valves at its mouth were perfectly healthy. The head was not opened.

"The immediate cause of death was, no doubt, loss of blood through the rupture in the aorta. One or both of these, in all probability, took place to some extent, the moment complaint was first made of sickness and faintness; but the external coat resisting for a time the escape of the blood, permitted the patient to rally; the strain, however, continuing upon that coat, and probably becoming greater from the extent of the ruptures increasing, it at length gave way, and permitted the blood to flow into the pericardium, at which moment the second and fatal fit happened—nine and a half hours after the first. The swelling, occasioned in the first place, by the escape and lodgment of blood between the coats of the vessel, may perhaps explain the severe pain experienced across the chest and in the neck, by the pressure that would exert upon the recurrent branch of the vagus nerve of left side, which winds round the aorta in that situation. The absence of dyspnœa is perhaps, too, accounted for by the absence of disease of the heart or lungs, or of any other disease that could seriously retard the circulation. It is probable that the disease of the coats of the aorta was of some years' standing; but with no obvious symptomatic indications, and with insufficient causes to produce marked physical evidence, I think it not likely that the disease could have been discovered during life. Could the fits of sickness and faintness, occasionally experienced, have arisen from a slight escape of blood through the holes noticed, which had afterwards been resolved?"

ART. 60.—*Case of Thoracic Aneurism ascending into the Neck, with permanent Contraction of the Pupil of the Left Eye.* By JOHN T. BANKS, M.D., King's Professor of Physic, Physician to the Whitworth and Hardwicke Hospitals.

(*Dublin Hospital Gazette*, Jan. 15, 1856.)

The case which Dr. Banks details is one which presents a feature of great clinical interest, and which, from its extreme rarity, is worthy of being placed on record, and added to the two previously reported examples of aneurism, in which the phenomenon of contracted pupil has been noticed in connection with the disease. That the state of the pupil existing in this case must be of very unusual occurrence, may be inferred from the absence of any mention of it in the works of many writers who have so largely contributed to our knowledge on the subject of cardiac and arterial disease. Dr. Banks proceeds: “I was not myself aware that contracted pupil had ever been remarked under similar circumstances to those in the case about to be narrated, until my attention was attracted to a communication from my friend Dr. Gairdner, in the August number of the ‘Edinburgh Journal,’ a periodical the pages of which are frequently enriched by highly valuable communications from the pen of this distinguished physician.

“The case, in which this condition of the pupil was observed by Dr. Gairdner, was one of aneurism of the aorta projecting into the neck: he observes that it is ‘an interesting example of a pathological condition explicable by physiological laws.’

“Dr. Gairdner refers to the researches of Dr. John Reid on the vagus nerve, and also to the experiments of Valentin, and comes to the conclusion that these investigations are clearly applicable to the explanation of the case he communicates. According to Valentin, the iris is furnished with nerves from two sources. The section of the sympathetic trunk in the neck paralyses the nerves which act on the radiating fibres of the iris, from the spinal system *through the sympathetic*, and resigns the pupil to the exclusive influence of the circular fibres, or those which contract the pupil, and which are supplied from the inferior branch of the motor oculi nerve, and thus the pupil is kept permanently contracted. Budge and Waller's experiments are confirmatory of Valentin's views.

“Stimulating the sympathetic in the neck dilates the pupil, and cutting it causes contraction of the pupil more or less permanent.

“It appears that the records of medicine present only one case of aneurism, in which contracted pupil had been noted, previous to the case described by Dr. Gairdner. In the year 1838, Mr. Hare, the house-surgeon of the Stafford Infirmary, published, in the ‘Medical Gazette,’ a report of a case in which a scirrhouous tumour, occupying the inferior triangular space on the left side of the neck, was accompanied by a *contracted state* of the pupil. On dissection, after death, it was found that the pneumo-gastric, phrenic, and *sympathetic* had passed into its substance, and were transformed into diseased structure.

“Dr. Gairdner refers to a case of aneurism at the root of the neck,

noted by Dr. Walshe, in which the pupil was observed to be 'very notably smaller than the other.'

CASE.—“A. F., a woman, æt. 24, was admitted into the Whitworth Hospital on the 27th of November, 1855. She stated she was a married woman and had four children, and it was afterwards ascertained that she was a person of dissolute and highly intemperate habits. She was rather delicate in appearance, and of slender form; but she said her health was perfectly good until twelve months before her admission into hospital. At this period she received severe injuries from blows inflicted by her husband. Her lower jaw was broken, and she fell heavily on her left shoulder. For some time after she experienced pain in the side of the neck and point of the shoulder, slight at first, but gradually becoming more severe, and causing her to lean to the left side.

“The complaint for which she sought admission was bronchitis. Her breathing, she informed us, had been for a considerable time short, more especially on making any unusual exertion, but it had recently become more oppressed, and the cough had been accompanied by stridor. Aphonia did not exist. On proceeding to examine her chest the following condition of parts was observed: There was an obvious prominence, involving the left clavicular region, extending beyond the median line, and also above the clavicle, the sternal end of which was displaced forwards, and a little upwards. The superficial veins were enlarged over the infra-clavicular region. The jugular vein at the left side was also larger than the right. An impulse is visible at the upper sternal and sub-clavicular regions. The sternal half of the clavicle is dull on percussion, as is also the infra-clavicular region, to an extent of two inches beneath the bone at its sternal end. The upper third of the sternum is also dull, and over the tumour percussion gives a sensation of abnormal resistance. With regard to the acoustic phenomena, two sounds are audible in the same situation, resembling the cardiac sounds, but being less clear. Neither sound approaches in the least to the character of a murmur. No pulsation can be discovered in the left carotid, and the radial pulse is absent. The respiratory murmur is decidedly more feeble over the left lung than the right.

“Pain was experienced in the seat of the aneurismal tumour, and it extended along the inside of the arm to the ring and little finger. The arm was also numb and colder than the right arm; there had never been œdema. The first time this patient was seen by me, I remarked that the left eye was smaller than the right, and upon examination of the eye, I noticed also that the left pupil was smaller than the right. This condition of the pupil was constant, I mean its being always relatively smaller; it was susceptible of change, however; but in strong light, or in shade, the relation between the two pupils continued the same. The sight of the left eye was as good as that of the right. I repeatedly and most minutely made the eye the subject of investigation, and I called the attention of my clinical class to this singular phenomenon. I had intended to have made some observations on the effect of atropine on the eye, but I failed in my endeavour to induce the patient to remain in hospital, after she experienced relief from the symptoms for which she sought admission originally. At some future time I may be enabled to communicate the sequel of this highly interesting case; meantime I consider the case, incomplete as it is, worthy of publication, for taken in connection with Dr. Gairdner's case and the other, it may aid 'in fixing the attention of physicians on the state of the pupil in similar cases of disease.' To Dr. Gairdner is due the merit of bringing the contracted state of the

pupil, as a result of pressure produced by aneurismal tumours on the nerves, in a prominent manner before the profession, and thus in his own words he has 'indicated a new source of functional disturbance in thoracic aneurism, as connected with the interference of such tumours with the nervous system.'

"In conclusion, I may refer to the fact not observed in the former cases, namely, that in the case under consideration, not only was there contraction of the pupil, but the eye itself was considerably smaller than the other."

ART. 61.—*On Factitious Heart-sounds, &c.* By (1) Dr. JENNER, Physician to University College Hospital; and (2) Dr. ELLIOTSON, F.R.S.

(*Medical Times and Gazette*, March 1 and April 5, 1856.)

(1) In a clinical lecture, recently delivered, Dr. Jenner makes some remarks of much practical value, upon the effects of pressure in producing, intensifying, and modifying certain morbid sounds in the heart and great vessels, in the larynx and in the lungs.

"There are," he commences, "three patients still in the hospital, and others have recently left it, in whom I pointed out to you some facts illustrating the influence of pressure in the production, intensification, and modification of certain morbid sounds generated in the region of the heart.

"To the case of the lad Exley, suffering from pericarditis, I lately directed your attention at length; I will recall some of the points of the case to your memory: when the stethoscope was placed over any part of the praecordial region between the fourth and seventh costal cartilages, two abnormal sounds were heard with each beat of the heart—one systolic, the other diastolic—I say systolic and diastolic, though they were not completely synchronous in point of time with the heart's systole and diastole. Loud as were the murmurs, especially the systolic, over the heart, they were not audible when the stethoscope was placed at a very little distance from the praecordial region. In character the murmurs were rubbing. I pointed out to you at the bedside, that the case offered us a perfect example of the to-and-fro sound of Dr. Watson. Moreover, the sounds impressed on all who heard them the idea that they were generated very near to the stethoscope. As the parietes of the lad's thorax were tolerably flexible, a moderate force sufficed to bring the two layers of the pericardium more closely into contact, and so the friction resulting from the passage over each other of the roughened visceral and parietal layers of the pericardium, was increased, and consequently the murmur generated by the friction was intensified. At one time it was supposed (and is so still by some), that murmurs generated in the pericardium could always be intensified by pressure in the young; and, also that when a murmur, audible over the heart, could be intensified by pressure, that absolute proof was obtained that the murmur was generated in the pericardium.

"However, we now know that neither of these statements is true; for, Dr. Walshe has observed one or more cases in which a pericardial murmur was diminished in loudness by pressure, the free play of

the surfaces being impeded by the pressure. And the girl Stone, and the boys Perrin and Whiting, afford us indisputable evidence that a murmur may not merely be intensified, but may even be generated at the base of the heart, by pressure. These children are aged respectively 7, 9, and 10; the girl was the subject of chorea, one boy is suffering from enlargement of the spleen, the other from a skin affection; all have well-formed chests, but in all the thoracic walls are very flexible. Moderate force causes recession of the sternum, and of the cartilages of the ribs, and consequently of the parts subjacent.

"In reference to these children, and several other cases of a like kind, which I have noted, I wish to impress on you the following facts:

"1. That no murmur was audible when the stethoscope was applied without force to the sternum, or to the cartilages of the ribs.

"2. That when a moderate amount of pressure was exerted, through the medium of the stethoscope, on the sternum, over the base of the heart, a systolic murmur was audible.

"3. That the loudness of the murmur varied with the degree of the pressure.

"4. That pressure on the base of the sternum did not elicit a murmur.

"5. That pressure on the sternum, opposite and above the fourth cartilage, and below the first costal cartilage, elicited a murmur.

"6. That the healthy sounds of the heart only were to be heard at the second right costal cartilage, whatever the amount of force to which it was subjected.

"7. That a moderate degree of pressure on the second left costal cartilages, or on the second left intercostal space, near the sternum, rendered a murmur audible.

"Judging, then, from the situations in which the murmur was producible, viz., over the base of the heart and upwards to the first left interspace; the period in the heart's beats which it occupied, viz., the systole; and the manipulation required to elicit it, viz., pressure, I think there can be no doubt—1. That in these cases the murmur was generated in the pulmonary artery. 2. That the murmur was produced by the passage of the blood through a narrow part of the vessel into a wider part. 3. That the direct force exercised on the thoracic parieties by the stethoscope, was the immediate cause of the local diminution of the calibre of the vessel.

"The only observer who has, so far as I know, recorded a case identical with those to which I have just referred, is Dr. Latham. You will find the case in his third Clinical Lecture; it is so admirably told that I must read it to you: 'A little boy, aged 8½ years, high-spirited and vivacious, but thin and out of health, was brought to me under a suspicion of disease of the heart. Its impulse was not felt beyond the apex, but there it was in excess; yet there was no larger space of dulness than natural in the praecordial region. Upon auscultation, however, this remarkable peculiarity was made out: when the ear or the stethoscope rested gently upon the praecordial region, no unnatural sound whatever was heard; but when either the ear or the stethoscope was applied with such force as to cause the ribs to sink a little below their natural level, then a loud bellows murmur sprang

up. The space at which it was heard, and not beyond it, was just so far as the mouth of the stethoscope covered, when it was placed upon the cartilage of the third rib as a centre. This case, which occurred to me,' continues Dr. Latham, 'five years ago, has made me watchful ever since, lest haply I might create the murmur I was in search of; and it is no needless caution where the patient is young, and the framework of the chest is yielding. Never, indeed, the chest being not deformed, never but in this single instance have I produced a murmur simulating that of valvular disease. But very often, when over-earnest in what I was about, I have pressed too heavily on the praecordial region, a sort of jarring sound has reached my ear, and brought with it the suspicion of disease; until setting the heart free from the weight and the restraint which I had inadvertently imposed on it, I have at once lost the sound and the apprehension too, which had arisen from my own awkward manœuvring.'

" Since, however, my attention was directed to the subject by hearing the produced murmur in the girl Stone, I have found that I have been able to produce a basic systolic murmur in a large number of healthy children, and I am satisfied that Dr. Latham's caution is highly necessary, viz.—that when examining a child you must be careful not to exercise much pressure at the base of the heart, lest you produce a murmur which may cause considerable anxiety in regard to the ultimate fate of your patient. For you will remember that the murmur produced by the weight of your own head on the stethoscope placed over the base of the heart, in the girl Stone, was infinitely louder than you or I ever heard in the same situation from mere anæmia, or spanæmia, as what we lately knew as anæmia is now often called. Had I not detected the cause of the murmur, I should have supposed the child to be the subject of congenital disease of the heart.

" In the girl May, lately admitted into Ward 3, because the subject of tape-worm, we found that pretty firm pressure on the thoracic walls over the pulmonary artery modified materially the first sound, and although we could not say that a murmur was produced by the pressure, we could not but admit that so long as the pressure was maintained the first sound was not healthy.

" This again confirms the accuracy of Dr. Latham's observations, recorded in the quotations I have read to you from his lectures.

" I have told you that the murmur produced by pressure over the base of the heart, in the cases in the hospital, originated in the pulmonary artery; I must add, that I doubt much whether pressure can be exercised over the base of the heart, powerful enough to diminish the calibre of the aorta, and for these reasons: 1. Because of the relative situation of the aorta and pulmonary artery. 2. Because of the comparative thickness of its walls. I am inclined, then, to think, that systolic basic endocardial murmurs produced or intensified by pressure have their origin in the pulmonary artery. So when in doubt as to whether a systolic basic endocardial murmur is generated in the pulmonary artery or aorta, I have derived some assistance in arriving at a correct conclusion from a consideration of the effect produced on it by pressure.

"The little boy Perrin, now in Ward 4, and whom you can see after the conclusion of the lecture, affords us an example of a very common condition, viz., one in which the patient can exercise pressure on his own pulmonary artery, sufficiently powerful to generate a murmur. So long as this child is inspiring there is no cardiac murmur, but at the termination of expiration there is a loud blowing, systolic murmur; this murmur has its point of greatest intensity at mid-sternum, opposite the third interspace; it is louder at the first left than at the first right intercostal spaces next to the sternum; it is not audible at the apex. These facts show the pulmonary artery to be the seat of the murmur. During forced expiration the anterior surface of the thorax is flattened, the antero-posterior diameter of the thorax is considerably shortened, and so the pulmonary artery is pressed on. This child, as you know, is remarkably anæmic, there is a very loud venous hum in his neck, and it is difficult to place the stethoscope over his carotid artery without compressing it enough to generate a systolic murmur.

"Compression of the pulmonary artery by the patient in expiration, or by the physician with his stethoscope, is a common determining cause of the basic systolic murmur so often heard in anæmia. In anæmia, too, the arterial walls appear to resist pressure less strongly than in health, and this is one of the reasons why it is sometimes almost impossible to place the stethoscope on the carotid artery of an anæmic young woman, without diminishing its calibre at the spot, and so generating a loud murmur."

Dr. Jenner then proceeds to show that the pulmonary artery may be compressed by the sternum, during expiration, sufficiently to produce a murmur when the patient is not anæmic, if the chest is very flat from before backwards, and if the walls are very flexible. Moreover, factitious sounds may be produced in the aorta and pulmonary artery, when the position of the heart is altered in relation to these vessels, by the pressure of fluid, as in ascites, &c. Prolonged cough may have a similar effect. Dr. Jenner also points out that the thrill which is felt by the hand in some morbid conditions of the heart and great vessels, may be diminished or extinguished by pressure, and that the natural fremitus which is felt over the larynx and chest generally may be changed in the same manner.

(2) Dr. Elliotson's remarks, apparently, were called forth by the preceding lecture of Dr. Jenner. Dr. Elliotson says:

"It is more than five and twenty years since I published cases of morbid sounds of the heart without disease at any of its openings. In the 'Lumleian Lectures,' published by me in 1830, I stated, at page 18, that—'I once witnessed a remarkable instance of the temporary occurrence of this (the bellows) sound. In this case there was ascites; and the bellows sound, which was in the region of the left ventricle, instantly ceased on the removal of the fluid from the abdomen, and was not heard for several weeks, when the fluid again accumulated, and it again became audible.' In my lectures on the practice of Medicine at University College, London, I invariably mentioned this case from 1831 to 1838 inclusively, and I find, in the editions of them published by Dr. Rogers and Mr. Lee, that I added the remark that,

'after death, the opening was found healthy, but the left ventricle dilated. It appeared to me that the diaphragm, being pushed up by the water, *tilted the heart* a little, so that the passage of the blood into the aorta was a little impeded.'

"I have never met with such an instance again, nor had I ever heard of one, and I was, therefore, pleased on reading one recorded by Dr. Jenner in the 'Medical Times and Gazette' of the 1st of last month. 'When the abdomen is enormously distended,' says this gentleman, 'the relation between the ventricles and the orifice of the pulmonary artery and aorta is altered, and a murmur may be the consequence. A well-marked case of this kind fell under my observation some time since: the patient was the subject of ovarian dropsy; at the base of her heart a loud blowing murmur was heard; whether generated in the heart or pulmonary arteries could not be determined; perhaps a murmur originated in both. She was tapped, and all murmur disappeared. In such cases the apex of the heart is tilted' (p. 204).

"As, notwithstanding my examination of the sounds of the heart in the numerous cases of peritoneal and ovarian dropsy, some of them of course enormous, that I have attended subsequently, I have not met with the same occurrence, I presume that the sound depended upon the tilted ventricle being morbidly dilated. In my patient the accumulation was not enormous, either in the first or in the second accumulation of fluid. Dr. Jenner does not mention that he was able to learn whether the sound in his case returned with a return of the accumulation of fluid, or that the heart laboured under dilatation—two important facts in my case; but he must be pleased equally with myself in recording his case in confirmation of mine, which he heard me detail in each course of my lectures attended by him in University College.

"Among the many cases which I have seen of effusion into the left pleura, and of removal of the apex of the heart to the right side, I have never heard a morbid sound of the heart. Nor was one to be expected, because, the apex of the heart being pushed to the right, there can be no impediment to the exit of the blood into the aorta; whereas, when the heart is pushed upwards by the diaphragm, the apex will incline to the left, and the course of the blood into the aorta be, in some circumstances, more or less impeded.

"In the same lectures, it will be found that I stated the observation made by me upon the similar effect of posture upon a morbid sound of the heart in some cases. 'A patient was, some months ago, in St. Thomas's Hospital, in whom the recumbent posture produced it. She was a young woman, with chronic bronchitis, dyspnoea, livid lips, and oedematous legs, and afforded no bellows sound while erect; but it became audible the moment she lay down.' 'I have since noticed the same fact in other cases of dyspnoea; and it shows the necessity of examining patients in both postures. By continuing the investigation of this point, I have ascertained that the preternatural sound heard with the pulse is generally louder, and often very much louder, in the recumbent posture; while the preternatural sound, when auricular, is louder, if anything, in the erect. The cause of the ventricular

bellows sound being less loud in the erect posture is, perhaps, that the ventricle is then drawn down more into a straight line with the aorta by the gravitation of the heart, and an easier exit given to the blood.' ('Lumleian Lectures.')

"At the period of my lectures, a difference of opinion existed as to narrowness of passage producing a morbid sound; and I therefore mentioned 'our being able to produce the bellows sound in the abdomen by compressing the abdominal aorta with a stethoscope; and to regulate its intensity by varying the degree of pressure.'

"In anæmia, the morbid sound in the neck may be increased, or even brought on altogether, by pressure with the stethoscope, or by turning the head very much round to the opposite shoulder; as is well known, and as I have done and do continually. I have, for several years since I ceased to lecture, been in the habit of increasing the morbid sounds of the openings of the heart, by making the patient, whatever his age, expire as forcibly as possible, and refrain from inspiring again as long as possible. This measure is useful in cases of doubtful morbid sounds of the heart; and I adopted it with the view of bringing the heart and the walls of the chest in as great proximity as possible, that its sounds might more perfectly reach my ear. But Dr. Peter Latham produced a morbid sound by pressing the walls of the chest upon the heart of a child, and Dr. Jenner has done it in many children, the parietes of whose chests are of course yielding, by moderate pressure with the stethoscope on the second left costal cartilage, or on the second left intercostal space, where the pressure would influence, he suggests, the pulmonary artery."

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 62.—*Quinsy treated internally by Belladonna.* By M. POPPER.

(*Prager Vierteljahr. f. d. prakt. Heilk.*, 1855; and *Gaz. Hebdom. de Med. et Chir.*, Jan. 11, 1856.)

Resting, as he says, upon an experience of more than 500 cases, M. Popper asserts that small doses of the tincture of belladonna, frequently administered, will cure quinsy in twenty-four hours, if the inflammation be not of a syphilitic character, or associated with a diphtheritic condition of the mucous membrane. No particulars are given.

ART. 63.—*A case of Scirrhous of the Pancreas.* By Dr. WM. THORN.

(*Lancet*, Nov. 10, 1855.)

This case is related as follows:

CASE.—Mrs. C—, a lady 44 years of age, mother of three children, a native of, and long resident in, British India, who had suffered from fever and ague,

from which she had recovered under the use of *mercury* and *quinine*, came under my care three weeks before her death. She said that she had been suffering from constant vomiting and purging for four months past, for which every kind of homœopathic remedy had been tried *without effect*; she was now complaining of excessive dryness of the mouth, there being an *entire suppression of the salivary secretion*, and a constant discharge of mucus and blood from the nostrils and back portion of the throat; she was in an *excessively anæmic state*, no doubt produced by the vomiting, which was of *an exceedingly acid character*, and purging of *a bitious and most offensive odour*; the bodily appearance gave the idea of a malignant disease, and the constant diarrœa was considered to diagnose ulceration of the bowels; *still there was no pain*, either constant or occasional, not even when the stomach was sharply pressed; for after examining the uterus without effect, the scirrhus was looked for in that viscus. Having ordered injections of beef tea, and laudanum to cause them to be retained, several times daily, and the exhibition of the citrate of iron internally, and, by the advice of Dr. Elliotson, the sulphate of that salt, by enema, as an addition to the beef tea, and having run the patient through the gamut of copper, tannin, gallic acid, and strychnine, for the relief of the diarrœa, without effect, she finally sunk into a deep sleep, apparently the result of the attention of a female mesmerist (for the injections had been omitted), for which the poor patient so urgently craved that her friends deemed it right to indulge her wish in that respect. This comatose state lasted about four days, during all which time the pulse was only 80, having dropped down from 96; the breathing 24, and perfectly regular, and the vomiting ceased entirely, the diarrœa also ceasing in a material degree. Finally, at the end of the fourth day, life departed without a struggle, it really being a simple cessation of breathing without the least apparent pain.

The post-mortem revealed that the heart, lungs, *liver*, and spleen were perfectly *healthy*: perhaps, under a magnifying glass, it might be said that there existed in the liver the slightest trace of fatty degeneration; the pancreas, however, was converted into a dense white fibrous mass; and although the duct was pervious, it is quite evident (and I have the preparation before me while I write) that no fluid could have been secreted for a long time past; the colon was extensively ulcerated throughout, which, doubtless, accounted for the continuous and unsubduable diarrœa.

ART. 64.—*On the nature of the change known as Fatty Liver.*

By M. LEREBOUTLET.

(*Mém. de l'Acad. Impériale de Med.* ; and *Medico-Chir. Rev.*, July, 1855.)

The following are the conclusions of the author:

“ 1. The fatty degeneration of the liver is due to the accumulation of fat in the biliary cells themselves. 2. Special fatty cells are not formed, as biliary cells would then be found amidst the fatty ones, which is not the case. 3. Nothing authorises us to admit that fat becomes developed in the interstices external to the cells. 4. The biliary cells may, by the accumulation of fat, acquire double or triple their normal volume, this development of the cells explaining the increased size of the fatty liver. 5. These cells entirely lose their secretory character, and no longer contain biliary granules; the biliary secretion is obstructed, and the contracted gall-bladder contains but little bile. 6. The fatty degeneration induces a decolorized state of the

liver, which progresses from the periphery towards the centre of a lobule, giving the organ a spotted and reticulated appearance. 7. The decoloration arises from the development of the fatty cells compressing the portal vesicles, and impeding the circulation in them. 8. In the artificial fattening of geese, the liver only becomes loaded with fat after the other organs of the body, and especially the abdominal viscera, have become saturated with it. 9. The cells of the liver of fattened geese differ from pathological fat-cells, inasmuch as the fat that fills the former always retains the form of distinct droplets, accumulated in the cell, to which they give an irregular appearance on distension; while in the pathological cells the fat becomes united into larger and larger drops, until the cell is at last distended by a single one like a balloon. 10. The fatty cells in the goose resemble, as regards the deposition of the fat in the interior, the physiological fatty cells of the foetus and those of the lower animals. 11. The nuclei of the normal cells, as well as the biliary granules, disappear when the fatty degeneration commences. 12. The degeneration takes place simultaneously throughout the organ, but all the fatty cells do not present the same degree of development. 13. This change of biliary into fatty cells is observed in tuberculosis, cancer, cirrhosis of the liver, &c. 14. The deposition of fat in the cells appears to be closely connected with a diminution of the nutritive process, and consequently of organic combustion, which is the primary condition of that process. When the quantity of oxygen absorbed is less than in the normal state (as in tuberculosis, cancer, and probably all diseases of nutrition); or, when the respiratory elements (fecula, &c.) are taken in too large proportions, the combustion of these substances is incomplete, and the chemical elements which enter into their composition combine so as to form fat, which is deposited in the biliary cells.

ART. 65.—*A case bearing upon the origin of Tape-worm.*
By Dr. GAIRDNER, Physician to the Royal Institutes at Edinburgh.

(*Edinburgh Monthly Journal*, March, 1856.)

At a recent meeting of the Medical and Chirurgical Society of Edinburgh, Dr. Gairdner narrated the case of a girl, at present under his care in the Infirmary, which seemed to support the views of Siebold and Kuchenmeister, as to the transformation of the *cysticercus cellulosæ*, found in the hog and other domestic animals, into the *tænia solium*. Nine yards of the tape-worm had been expelled under the action of the shield-fern oil. On inquiry, the girl admitted that she had been in the habit of eating quantities of raw pork and butcher-meat generally. This was from a peculiar liking or inclination of her own, and was not a habit contracted in consequence of the example of others. In other respects her diet had been similar to that generally in use in her station in life in Scotland. It was well ascertained, that in Scotland the occurrence of tape-worm was rare as compared with some parts of England, and very rare when compared with some other European countries. It was not less unusual in Scotland to indulge in the eating of raw flesh, which practice was believed to be a frequent

source of the production of tænia. The occurrence of tænia was very common in Germany, where the practice of eating raw ham was also prevalent. On the other hand, Dr. Gairdner had reason to believe that tænia was rare in Holland, where the eating of raw animal food is very unusual. Dr. Gairdner alluded to a case lately published by Dr. Crighton ('Monthly Journal,' June, 1855), in which he had been able to trace the occurrence of tænia solium to the practice of eating raw meat, a practice which was common among the Lancashire operatives. Dr. Gairdner was inclined to attribute the rarity of the occurrence of hydatids in Scotland, to the small proportion of animal food, and especially of ill-cooked animal food, used by the labouring classes. During Dr. Gairdner's connection, as pathologist, with the Infirmary, he had opened not fewer than 1500 bodies, and he had never met with a single case of hydatids of the liver. Two cases had otherwise come under his notice; but in his dissections at the Infirmary, he had never seen one instance of the occurrence of the acephalocyst. In the London hospitals a considerable number were known to occur every year.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 66.—*Case of Tuberclole of the Kidney.*
By Dr. BASHAM, Physician to the Westminster Hospital.

(*Lancet*, Dec. 8, 1855.)

"Notwithstanding that diseases of the kidneys have been studied with results as advantageous to correct diagnosis as they have been beneficial to the general principles of treatment, there are, nevertheless, morbid conditions of these organs, which still, and perhaps ever must, except under very peculiar circumstances, present difficulties and obstacles to a correct diagnosis. Tuberclole of the kidney is a disease of this character; it is of comparative unfrequency, and if the record of such a case does not assist in clearing away the obstacles to a correct estimate of the presence of this deposit in the kidney, it will, however, exhibit the group of symptoms, as well as the complications which may arise and become associated with tubercle in these organs. The following case will demonstrate that while the existence of pyelitis, probably from calculus in the pelvis of the kidney, as well as the sacculated and enlarged condition of the right kidney, was clearly made out during life, yet, on the other hand there was nothing in the urinary secretion or other symptoms that could suffice for the suspicion of the presence of tubercle. The amorphous organic granular matter, insoluble in hydrochloric or acetic acids, and associated with pus in the urine, which has been supposed characteristic of softening tubercle of the kidney, was in this case so masked by the presence of amorphous granular earthy (phosphatic) matter, but readily soluble in these acids, that tubercle was neither suspected nor recognised. And even after death, when the nature of the purulent contents of the kidney was known, and submitted to the microscope, the presence of this organic granular matter was very doubtful."

CASE.—“ J. W.—, æt. 29, a carpenter, was transferred from the care of Mr. Charles Guthrie, and admitted into Burdett ward on the 18th of May, 1855. He came under the care of that gentleman, suffering from irritable bladder, and doubtful symptoms of calculus. He was examined by Mr. C. Guthrie, Mr. Holt, and Mr. Brooke, and they were unanimously of opinion that there was no stone in the bladder, nor stricture, nor disease of the prostate. While under surgical treatment, samples of his urine were twice sent to me for examination. On the first occasion, the urine was faintly acid, slightly albuminous, natural in colour, and depositing, when set at rest, a faint flocculent cloud; there were also small membranous shreds, one or two of which contained a minute coagula of blood. Under the microscope, there were seen the large pavement epithelial cells in abundance; many blood-corpuscles; some fibrinous coagula, quite amorphous, but stained of a reddish yellow; and a few of the smaller, spherical, glandular epithelium. The bottom of the glass vessel in which the urine had remained contained a few membranous shreds, which felt gritty, and which readily dissolved in dilute hydrochloric acid. The patient described his symptoms as of about some seven weeks' duration; he could not account for their origin, but described them as commencing with severe lumbar pain, of a sharp, pungent character, followed by frequent desire to pass urine, and inability to retain but a small quantity. This was followed by severe paroxysms of pain, referred to the perinæum and canal of the urethra. The irritability of the bladder increased; he passed urine every hour, day and night; he had never passed blood, but he had seen very minute threads of coagulated blood. The house-surgeon stated that he had once noticed the urine of a dark chocolate colour; and a few days before he was transferred it became opaque and milky. As the pain became more urgent and distressing, his bodily strength failed, and he rapidly lost flesh. While under Mr. C. Guthrie's care, he had been cupped *in perineo*; he had taken, also, diuretics, with liquor potassæ; opium and ether had also been given; but from none of these remedies did he experience any relief. On being received into Burdett ward, the following were the chief symptoms recorded in the ward-book: there was great physical exhaustion and debility, much emaciation, and a careworn, anxious expression of countenance. The pulse was small and weak, the respirations natural, the tongue slightly coated, torpid bowels, deficient appetite, craving thirst, and profuse and exhausting perspirations. The patient complained of urgent pain, referred to the hypogastric region of the abdomen, and accompanied by darting, stabbing paroxysms in the perinæum. This pain, the patient states, is temporarily relieved by micturition, that for a few minutes afterwards he is comparatively easy, but that the uneasy sensation then commences, and continues augmenting in intensity till the distress becomes most urgent, and is again temporarily suspended by voiding the small amount of fluid collected in the bladder, which seldom exceeds one or two ounces. The pain is not increased by walking or exercise, and he has never known the urine to stop suddenly, and he is quite clear that the only interval of ease that he experiences is immediately after micturition. He has for many weeks suffered from a constant fixed pain in the small of the back, to the right of the spine, and referred to the posterior crest of the ilium. There is a greater degree of fulness in the right lumbar region than in the left; and pressure made on the former, by grasping this region with the right hand, the thumb resting on the lumbar muscles, and making pressure on the abdominal wall with the fingers, excites an increased amount of pain. An obscure sense of limited fluctuation is also elicited out of the same region. These conditions are absent on the left side.

“ The urine passed last night is milky and opaque, which characters the

patient now states he has noticed during the last week. On being set aside it separates into two portions: an upper, slightly clouded, but otherwise naturally looking urinary fluid; and a lower, distinctly separated precipitate of yellow pus-corpuscles. The upper portion is not ropy, but pours off naturally, is faintly acid, and a copious precipitate of albumen is obtained by heat and nitric acid. Examined by the microscope, the lower part is composed entirely of pus-corpuscles, with granular walls, and with addition of acetic acid these nuclei become distinctly visible. Some granular matter observed in another sample was readily dissolved by dilute hydrochloric acid. The supernatant portion before the glass exhibited large spheroidal epithelial cells, with many scattered pus-corpuscles.

"The opinion expressed after these facts had been elicited was that the patient was suffering from pyelitis of the right kidney, due in all probability to the impaction of the calculus in the ureter, or its lodgment in the head of that outlet from the pelvis; that the right kidney was enlarged and sacculated from this cause; and that the irritation of this concretion had set up inflammation of the mucous membrane lining the pelvis and extending probably to the calyces; and that the products of this inflammation (only partially retained by the body lodged in the head of the ureter, for the irregular shape of these concretions does not completely close the canal), on the one hand, passed as it were, *stillatim*, into the bladder; while, on the other, it was continually exercising a dilating or expanding pressure from within outwards, causing the kidney to become distended, and ultimately sacculated, with the entire loss of its tubular structure.

"The *uvæ ursi* was first administered, with a grain of morphia, night and morning; but, in a few days, the morphia appearing to fail in its anodyne effects, Battley's solution was substituted, and for a short time with apparent relief; for on the 29th of May the ward-book states that the pain was neither so urgent or distressing, nor the desire to pass urine so frequent. The quantity passed each time, however, did not exceed two ounces; and the whole quantity during the twenty-four hours at this time amounted to not more than sixteen ounces. The character of the urine continued the same; a dense, well-defined purulent deposit, and a supernatant, now perfectly clear portion, faintly acid and albuminous. Emaciation continues; there were profuse perspirations; much thirst, and the tongue becoming brown and dry; pulse very small and weak.

"On the 2d of June he took quinine and sulphuric acid, the anodyne being continued; the former of these remedies seemed to check the perspiration.

"On the 12th of June, there was some apparent improvement in the general condition of the patient. The thirst was less, the perspiration less, and the tongue, although red, was moist, and the patient had slept better. The urine passed in the latter part of the day emitted a very offensive odour, and was for the first time alkaline, and contained a much larger proportion of purulent deposit; the upper portion was, however, clear and not ropy, and abundantly albuminous. There followed so much exhaustion on the next day that he was placed on ten ounces of port wine. Micturition became more difficult than at any previous period of the disease. The opium continued to procure slight mitigation of the symptoms.

"On the 14th there was much exhaustion, pallor of the countenance, and the urine passed involuntarily from him; the quantity could not be estimated, nor the character ascertained. On the evening of this day the nurse reported that he was suffering from loose watery diarrhoea.

"On the 16th the ward-book stated that although much more exhausted, yet the patient stated that he felt easier, and that the pain referred always to the

neck of the bladder and perinæum had subsided. An opinion was expressed that in all probability a communication had become somewhere established between the enlarged and sacculated kidney and the intestines, by which the contents of the renal organ had been discharged, and relief for a time obtained. The condition of the patient was such that no examination of the loins and abdomen could be efficiently made. He lingered for two more days. The watery discharge from the bowels continued, and a turbid fluid escaped now and then in small quantities from the urinary passage. He died on the 18th of June.

Post-mortem examination, eighteen hours after death.—The body was much emaciated. On opening the chest, the lungs only partially collapsed; a few scattered bands of old organized lymph united the pleuræ in both cavities. Both lungs were the seat of tubercular deposit in the form of small gray granules, not exceeding a pin's head in size, nowhere in a stage of softening, nor were they in any spot aggregated together, but were diffuse, distinct, and surrounded by elastic permeable lung substance; the bronchial mucous membrane was natural in appearance throughout. The heart was soft and flaccid, with two white opalescent patches on its surface; the interior cavities and valves were free from any morbid appearance. The cavity of the abdomen: the peritoneal surface of the intestines presented no inflammatory appearance, except at one spot, where a fold of small intestine, lying in contact with the fundus of the bladder, was covered with some recently effused lymph, and surrounded with a margin of injected vessels. The colon was traced from the cæcum, and on raising it the right kidney was observed much enlarged, of a somewhat quadrangular shape, apparently sacculated, and fluctuating distinctly to the touch, from contained fluid. The large intestine was traced to the rectum, but no morbid condition was noticed; but the rectum, at a spot corresponding to the posterior and inferior third of the bladder, and a little to the left of the median line, was firmly united, and a fistulous communication at this point had become established between the bladder and the intestine, and by this channel the contents of the bladder had, since the commencement of the fluid dejections, been voided by the rectum. The mucous membrane of the bladder was of a dark slate colour, the upper half presenting the usual corrugations, but below the fistulous opening, and surrounding it, were numerous granular deposits, presenting the character of tubercle; the prostate was also the seat of a granular deposit. The effused lymph thrown out on one fold of the small intestines lying in proximity to the bladder was not more than a finger's breadth in extent, and had been developed by contiguity to the fistulous opening between the bladder and rectum. Within the bladder, the edges of the fistulous passage had a ragged and gangrenous appearance, and immediately beneath, and filling the portion of the bladder inferior to the fistula, was a mass of fibrinous matter, gelatinous in character, and adherent, though not firmly, to the mucous membrane; there was much amorphous and gritty matter diffused through it, and in the most inferior part fragments of earthy, gritty matter, composed of triple phosphate and urate of ammonia. The two kidneys differed very materially from each other. The right was much enlarged; it distinctly fluctuated; and was lobulated. The left, though somewhat larger than natural, preserved its form, and presented no evidence of disease. The capsule of the right kidney was firm and dense, and was with some difficulty dissected from the cortical surface. When this was accomplished, the surface was found studded with white tubercular spots each surrounded by a faint-red areola. On a section being made, a considerable quantity, about ten ounces, of a purulent fluid, of a yellow colour and creamy consistence, escaped, and

displayed the interior of the kidney as a large sac, each of the calyces representing a small cup-shaped cavity, constituting the walls of the dilated kidney. These smaller cavities, as well as the pelvis of the kidney, were covered with a rough, ragged fibrinous deposit. The ureter was much thickened, and throughout its extent was cord-like, its canal much narrowed, and its lining membrane of a slaty colour. There was not complete occlusion of its passage, for a small probe could be passed into the pelvis of the kidney, and, before the sac was laid open, the purulent fluid from the interior could be expressed from it. All trace of the tubular portion of the kidney had disappeared. The cortical part, when examined under the microscope, exhibited only a fibrous material, with diffused granular and fatty matter. The urethra presented no evidence of disease. The mesenteric glands were enlarged, and were the seat of tubercle. The liver was natural in size and weight, but somewhat soft and greasy, and the hepatic cells were more loaded with fat than in health. A few scattered tubercles were present in the spleen."

ART. 67.—*On the use of Diuretics in Renal Dropsy.*
By Dr. BURROWS, Physician to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, Nov. 8, 1855.)

The following remarks were made by Dr. Burrows at the bedside of a patient who was recovering from a very severe attack of renal dropsy :

" 'I wish, gentlemen, that you should notice the treatment which has been here pursued. I well recollect that long ago it used to be Dr. Latham's observation that this form of dropsy was often very efficiently treated by the tartrate of potash. That salt was, indeed, his favorite remedy. Then came the addition to our pathological knowledge, and the announcement of the fact that the disease was essentially one of renal disorganization. From this it was thought to follow clearly, that whatever stimulated or irritated the kidney must do harm. Diuretics, consequently, fell into almost universal disuse. Latterly, however, some of us are again coming back to the old practice; we find that no other remedies effect so much for the relief of the patient as diuretics, and we, therefore, prescribe the latter. The matter is one of experience, and my own is to the effect that the kidneys, though in a state of chronic disease, obey diuretics well, and that no inconveniences are produced.' The prescription which the patient, in this case, had been taking was as follows :

R Potassæ Tartrat., 3ss;
Spirit. Æther. Nitr., 3ss;
Aquæ Piment., 3j. Ft. haust. ter die.

The case was, of course, one of chronic dropsy, and the diagnosis as to its renal cause, had depended upon the absence of cardiac disease, and the presence of a large quantity of albumen in the urine."

ART. 68.—*Restoration of the Secretion of Urine after seven days' suppression, &c.* By Dr. G. P. MAY, of Maldon.

(*Lancet*, Dec. 22, 1855.)

“It is a remarkable feature in this case, that complete restoration of the functions of the kidney should take place after a suspension existing for so long a period. That the suppression arose from mechanical impediments, rather than from defect in the secreting apparatus itself, appears probable from the following circumstances:

1st. The sudden and copious discharge of urine immediately succeeding the sensation experienced by the patient of “something having given way in his side.” 2d. The presence of calculous matter in the calyces of the kidney and in the bladder. 3d. The absence of that complete uræmic condition of the system, to which the entire suspension of the function of the kidney for so long a period would give rise. 4th. The condition of the kidney, in a pathological point of view, would not prevent its discharging its peculiar office; such condition might perhaps be considered to be one of hypertrophy rather than of actual disease.”

CASE.—T. M—, æt. 39, a man of spare habit, and delicate and unhealthy appearance, had, for some months previous to his death, suffered occasionally from pain in his left side, with shortness of breath. This ailment was not deemed by him of sufficient importance to require medical aid, and he was able to pursue his ordinary avocation (that of a hawker), and was accustomed to walk a good deal in the country. In the month of April of the present year he was seized rather suddenly by acute pain, originating in the left lumbar region, and extending across the abdomen. He was confined to his bed a few days, but shortly recovered so far as to be able to resume his usual employment. At this time there was nothing remarkable either in the quality or quantity of the urinary secretion. On the 15th of August he was again attacked in a similar manner; the pain, as before, extended from the left loin across the left hypochondrium nearly to the umbilicus, and was much aggravated by an attempt to draw a deep inspiration. These regions were very tender and intolerant of pressure. On the 18th, the fourth day of his illness, it was observed that he had passed no urine; he felt no disposition to do so. There was no pubic distension, although there was considerable abdominal uneasiness and tension of the belly. From this date to the 25th, a period of seven days, he passed no urine. A catheter was introduced twice during this time, at an interval of two days; on the first occasion about an ounce of urine was abstracted, on the second, a tea-spoonful, containing a few granules of uric acid. There was never any pubic tumour, or any indication of retention. For the first three or four days after the suppression he was cheerful and intelligent when spoken to, after which he became drowsy, and complained of heaviness in the head. When left to himself, he generally fell asleep, in which condition he frequently muttered and talked incoherently, but up to the last day of the suppression he was perfectly rational when roused. A large amount of fluid passed off by perspiration, with which he was almost continually bedewed. During the whole time he suffered more or less from uneasiness in the left side and abdomen.

On the 25th, after dysuria had existed seven days, he felt (to use his own expression) “something give way in his side.” Very shortly after this, he passed spontaneously eight ounces of pale-coloured urine. During the day the

act of micturition was frequently repeated, and upwards of three pints of urine discharged. The later portions exhibited a reddish-brown tinge, and the sediment contained a proportion of blood-discs, many of them broken down and imperfect, and epithelial scales. On the following day, the urine, though discharged in sufficient quantity, was deeply tinged with blood. This condition obtained, in a greater or less degree, for a day or two, and then almost entirely subsided. His general condition was not at all improved after the restoration of the secretion. He was usually lethargic when left to himself. He became considerably emaciated, and his countenance assumed a worn and haggard aspect. On the 30th he died. He had not been the subject of ague. The treatment adopted in this case consisted principally in cupping on the loins, blisters, successive warm baths, diaphoretics, and anodynes.

Post-mortem examination.—The liver was much enlarged, being about twice its natural bulk. The spleen, enormously increased in size, encroached largely upon the left cavity of the thorax, and was strongly adherent to the costæ: it weighed four pounds and a half, and it had entirely lost its characteristics in shape, colour, and consistence: it somewhat resembled in shape the larger lobe of the liver when in its normal condition, was of a light mahogany colour, and indurated throughout its substance. The left kidney measured in length nine inches, and in breadth three inches and three-quarters; there was no appearance of mottling or granulation, but the cortical portion was much developed, and encroached somewhat upon the tubular substance. Some white gritty matter was apparent in the calyces and infundibula, which was put aside for investigation, but was unfortunately lost. No lesion could be detected in any portion of the vesico-renal mucous membrane, nor any evidence of pyelitis. No trace whatever of kidney or capsule could be discovered in the right side. The bladder was quite healthy, and contained a little matter similar to that noticed in the kidney.

ART. 69.—*On Cystic Entozoa in the Human Kidney.* By Dr. T. HERBERT BARKER.

(London: Hamilton, Adams, and Co., 1856, pp. 18.)

This essay was originally read before the Medical Society of London. It is founded upon a case which fell under the notice of the author, and it contains an analogous case by a friend of the author. The origin, the consequences, and the treatment of the disease are all carefully considered, and the whole essay will well repay perusal.

Dr. Barker's case is as follows:

CASE.—“A.F., æt. 28, plumber, glazier, and painter, came under my care on 17th December, 1853, with dull heavy pain in the loins, particularly on the left side, frequent desire to pass urine, and slight difficulty in voiding it. The urine was not particularly high coloured, and contained no deposit on cooling. The specific gravity was 1020. Treating the case as one of common lumbago, which at first sight it closely resembled, I prescribed simply ten minim doses of potash water, with thirty minims of sweet spirits of nitre in camphor mixture, together with an aperient of calomel and jalap, and an emulsion for the loins of ammonia, laudanum, and soap liniment. On the 22d December he observed to me, that during the early part of the past night he had experienced greater difficulty than ever in passing urine, and that for some hours he had been unable to pass a single drop. Early in the morning he passed some little jelly-like masses, four in number, which he called

'bladders,' and the emission of which gave him instantaneous relief. They were hydatid cysts. Subsequently, he sufficiently recovered to follow his occupation during the summer of 1854, suffering nothing more than an occasional frequent desire to void urine.

"On September 10th, he passed six of these cysts, but with less pain and difficulty than on the former occasion—a result which he attributed to ten drops of the oil of turpentine, which had been recommended to him, and which greatly increased diuresis. The urine, after the passage of the cysts, being somewhat tinged with blood, I recommended merely a continuance of the medicine I had previously prescribed, adding only to each dose half a scruple of the sesquicarbonate of soda.

"On November 16th, he passed four of the cysts, the urine not being bloody afterwards. The passage of these cysts was, however, preceded by severe pain in the region of the left kidney, by the passage of several pieces of clotted blood, and by considerable difficulty in voiding urine. Indeed, for two entire days he passed no urine. On this occasion he took nineteen drops of turpentine within two hours, but in divided doses. Shortly after taking the turpentine, the pain in the left kidneys suddenly ceased, with a sensation which, to use the patient's own words, seemed to indicate that 'something had suddenly broken in the kidney.' He then complained of pain along the left iliac region, which continued for several hours, and ceased as suddenly as the previous pain had done. After this, all attempts to void urine were accompanied with pain along the urethra, premonitory to the expulsion of the cysts from that passage. The cysts passed on this occasion were larger than before, and, after their emission, all pain ceased; and he continued in good health, with the exception of an occasional dull aching pain in the lumbar region, especially on the left side, from the date I have named (November 16th), until the 9th December of the same year.

"On December 9th, he passed five cysts, but all of smaller size than those referred to in the preceding paragraph, and the passage of no others was observed until December 31st, when he awoke in the morning with acute pain in the loins, and all the other symptoms described previously as occurring on November 16th. During the day he passed not fewer than twenty cysts—one at 8 a.m., eleven at 1 p.m., five at 7 p.m., and three at 11 p.m. He had never previously passed so many as eleven with one effort; nor has he since. The cysts passed in rapid succession, and some were of a size as large as a small walnut. He felt tenderness in the urethra for a few days after this date, but considerably less pain in the loins.

"On January 1st, 1855, a single cyst was passed in the morning; on the 2d, two others, also in the morning; on the 3d, one in the afternoon; and on the 10th, two in the morning. From that date (January 10th) until July 23d, the peculiar class of symptoms to which he had been liable never left him entirely. He had frequent attacks of pain and difficulty in passing urine, followed often by the expulsion of cysts, between seventy and eighty of which he has brought to me on various occasions. He passed one large cyst on the 23d July. On the 9th November, he passed what appeared to be a portion of a very large cyst, and on the 11th November, he passed an entire cyst of moderate size. Since the last date to the present time (December 8th), he has passed no other cysts. He continues to take the diuretic medicines, and occasionally, when the pain is more severe than usual, a dose of the turpentine. Before the 23d July, he frequently experienced an immediate cessation of the pain in the iliac region, upon what he called the 'dropping' of something which he distinctly felt, and which, as I take it, must have arisen from the escape of a cyst from the ureter into the

bladder. These sensations were always confined to the left side. The relief has not been so frequent or decided since that date, and he is daily expecting to pass more cysts. Latterly, he has also complained of pain in the region of the right kidney. Careful examination has failed to detect any abdominal enlargement.

"While these remarkable and well-marked symptoms were thus progressing, my attention was often directed very naturally to the urine, which was examined on various occasions. I have already remarked on the passage of blood in small quantities after the expulsion of the cysts; but as this was only a mechanical result, arising from slight lacerations in the canal, from the distension caused by a cyst, and the violent efforts made to expel it, the mere presence of a few blood-globules, which were often found in the urine, is easily accounted for. In addition, the urine was often loaded with the lithates and phosphates, and occasionally I detected microscopically the crystals of lithic acid. The same crystals were not unfrequently found attached to the outer surface of the cysts themselves.

"The man's general health having suffered but little interruption while the events now described were taking place, I have really already written a complete history of the symptoms presented, as well as of the treatment pursued.

"For special reasons, to which I shall refer in the sequel, it is right to record the diet of the patient. For some years past he has rarely eaten either beef or mutton, having a natural aversion to these meats, and for one year, six years ago, he was a vegetarian. As an ordinary rule, however, he has lived on pork, and thinks that, on an average, he has taken 'pig's fry,' consisting principally of the liver, at least twice weekly. He has on more than one occasion eaten 'measly' pork, and pig's chitterlings (the intestines of the animal) has been a frequent dish. He is also very fond of sheep's head, and especially of the brains, but does not know whether the brains he has thus taken were those of 'sturdy' sheep. He has likewise been accustomed to take in the morning herbal bitters, such as decoctions of horehound, wormwood, and agrimony. He is fond of coarse brown sugar. He does not remember ever having eaten meats badly cooked, and has not suffered from other forms of entozoa, except ascarides, which troubled him greatly in early life. His wife (since their marriage) has lived on the same diet, but has not shown symptoms of the same disease."

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 70.—*Treatment of Lupus by the application of Iodide of Mercury, &c.* By Mr. M'WHINNIE, Surgeon to the Hospital for Diseases of the Skin, &c.

(*Medical Times and Gazette*, Oct. 20, 1855.)

A few years ago M. Cazenave published, in the 'Annales des Maladies de la Peau et de la Syphilide,' his experience of the effects of the red iodide of mercury in lupus. In obstinate cases of this disease, particularly of the non-ulcerated form, with or without hypertrophy, the most favorable results have been obtained at this hospital from the local application of that remedy.

The following case, treated by Mr. M'Whinnie, is selected:—R. H—, æt. 25, a dressmaker, of nervous temperament, but in other-

wise good general health, and of healthy parents, was admitted in January last.

The back of the right hand and fingers were beset with lupus of the tubercular form, amid much swelling of these parts from hypertrophy of the surrounding skin and subjacent cellular tissue. The unsightly appearance was further increased by the desquamation of the surface of the tubercles and the livid colour of the integuments. The disease made its appearance about ten years ago upon the knuckles; it afterwards invaded the back of the hand; and she noticed that it happened to spread over points which were formerly occupied by warts. She experienced no relief from any of the remedies suggested by several surgeons both in England and France, when in 1852 she became for a short period a patient of M. Cazenave himself, who commenced the plan of treatment which, with some modification, has since been attended with so much advantage.

The topical remedies have consisted chiefly in the application of red iodide of mercury ointment (according to the formula introduced into the *Pharmacopœia* of the hospital by Mr. Startin)* at intervals of three or four weeks to the diseased surfaces; these were always blistered with the vesicating fluid on the day preceding the employment of the caustic. The consequent swelling and acute pain which followed (the latter continuing sometimes for thirty-six hours) being relieved by emollient hand-baths and poultices. After a few days, either the red precipitate ointment was applied, or the parts wrapped in bags wetted with dilute nitric-acid lotion, according to the convenience of the patient.

The reduction of the chronic hypertrophy is mainly attributable to the employment of well-sustained compression for a week preceding each application of the caustic ointment. The general health has been attended to, and cod-liver oil and mild mercurials administered. By steady adherence to this plan the improvement has been uninterrupted, and almost the only trace now left of this disease is the discolouration of the skin.

Equable and firm compression, patiently and perseveringly continued by means of strips of plaster and bandages, is a most valuable adjunct in the treatment of this form of lupus conjoined with hypertrophy, and is further assisted by the use of mucilaginous and vapour baths.

In this way the swelling and deformity of the limbs resembling elephantiasis, and the most hideous distortion of the features resulting from lupus, may be relieved. Such a case, Mr. M'Whinnie observed, he had witnessed in the wards of M. Brett at the Hôpital St. Louis. The whole head and face were swathed with bands and rollers as accurately as an Egyptian mummy; the occlusion of the nostrils, which may arise both from the hypertrophy and subsequent cicatrization, being guarded against by the introduction of tubes or of cylinders of prepared sponge.

* Rx Hydrargyri Biniodi, 3j; Adipis, 3ij; Emplastri Opii, 3vj. Misce.

ART. 71.—*On the treatment of Eczema.* By C. HANDFIELD JONES,
M.B., F.R.S., Assistant-Physician to St. Mary's Hospital.

(*Assoc. Med. Journ.*, Oct. 19, 1855.)

“It never seems to be worthless in a science, which is necessarily subject to so many causes of variety and uncertainty in its phenomena as that of medicine, to record definite results. For if they be true and good facts, they either give corroboration to the conclusions arrived at by others, or else they show that those conclusions are incomplete, and do not embrace the whole truth relating to the matter in question. These considerations lead me to state briefly what experience I have had of the treatment of eczema, which Dr. Burgess describes as ‘perhaps the most frequent, as well as the most troublesome, cutaneous affection that the practitioner will meet with in practice.’ The treatment advised by those who have written upon the subject varies a good deal. Mr. Hunt, premising antiphlogistic remedies if there be any inflammatory action, relies in the main upon arsenic, neglecting or altogether disapproving of local applications. Mr. Startin uses arsenic alone, and in various combinations, as well as iodide of potassium, colchicum, digitalis, bichloride of mercury, &c., internally, together with various local applications, both ointments and lotions. Dr. Burgess holds ‘greasy applications under any circumstances as barbarous and often injurious remedies in the treatment of cutaneous disease;’ he employs mineral acids, liquor potassæ, and bicarbonate of potash, cantharides, iodide of mercury, arsenical preparations, especially Donovan’s solution; tonics, as citrate of iron and quinine; as well as various washes locally. Professor Bennett, of Edinburgh, believes that keeping the affected parts moist is all that is necessary, and only employs an alkaline lotion on account of the hardness of the Edinburgh water. Dr. Neligan employs also an alkaline lotion, or citrine ointment (the latter in chronic and languid cases), administers alterative doses of Hydrargyrum cum Cretâ, with iodide of mercury, and enjoins milk diet.

“I have notes of about forty cases, for the most part out-patients, at St. Mary’s Hospital. Some of them might perhaps have been more properly classed as impetigo; but I do not love straining after subdivisions, and I group them together, because they all had the same general easily recognised features; viz., the pouring out of an exudation, which was serous or sero-purulent, from a more or less inflamed and excoriated or superficially ulcerated surface. Out of forty cases, fifteen were below the age of five years, and twenty-three below that of ten. The cases occurring in children have generally appeared to me by far the easiest to manage; as indeed is the case with most of the diseases of the young frame, yet sound and ‘integer vitæ.’ The treatment which I now adopt invariably in such instances (it being understood that active inflammation is not present), is to give a minim of Liquor Potassæ Arsenitis three times a day to a child one year old, desiring all scabs to be removed carefully, and dilute citrine ointment (3iss to 3vss) to be rubbed into the affected parts once a day. I have often given a few drops of liquor potassæ, conjoined or not with a grain

of iodide of potassium, with the above dose of Fowler's solution ; but it has not appeared to me to be of any particular advantage ; and I now mostly use the arsenic alone. Instead of the citrine ointment, I have used in several cases zinc ointment with nitric-oxide of mercury (Oj to $\frac{3}{2}\text{j}$), or Unguentum Hydrargyri Ammonio Chloridi diluted, or bichloride of mercury lotion (gr. v-x to $\frac{3}{2}\text{j}$). I am not very sure, however, that one has any particular advantage over the other, except that the zinc and nitric-oxide combination, especially if about a drachm of subcarbonate of lead be added to it, seems to be best suited to irritable excoriated surfaces pouring out much discharge. With this treatment, I have every reason to be quite satisfied ; the only thing that I feel some hesitation about is, whether some amount of relapse may not take place when the remedies are discontinued. However, as I do not find that any discharged cases return again upon my hands, except in rare instances, I think relapse cannot be very frequent. In one case, I tried the effect of dilute citrine ointment alone, and it unquestionably did good ; but the eruption was not satisfactorily cured without the administration of arsenic. In this class of cases, I have not attempted any particular restriction as to diet, and have not found it necessary. * * * *

"In the class of cases of which I have been speaking above, the eczema is supposed always to be in a chronic state, or at least that there is no sthenic inflammation. This condition is of absolute necessity, for if there be active inflammation arsenic will prove most injurious, increasing the vascular congestion, and aggravating the disorder. Why? Probably for this reason, that arsenic exerts an irritant action upon the tissues, as well as a toning one upon the vessels, and may thus, if the former action predominate on account of the already morbid condition of a part, increase existing inflammation. No one has appreciated this better than Mr. Hunt. Arsenic (as he states) is by no means always necessary to the cure of inflammatory eczema ; saline aperients, with colchicum and magnesia, or alkalies, will alone subdue the disease. This is analogous to the case of gastric catarrh in persons of high tonicity and sthenic system. All that is necessary is to subdue the inflammatory action ; as soon as this is effected, the parts spontaneously return to their natural state ; and far from needing, will not even endure tonics.

"Between the chronic and the inflammatory cases there is an intermediate class, mostly made up of adults, in which the beneficial action of arsenic appears to be decidedly promoted by combining it with alkalies, iodide of potassium, neutral salts and colchicum, the whole dissolved in some bitter infusion. These, no doubt, promote excretion and elimination, previously defective, and bring the general system into a healthier state. One may compare their action with that of calomel in preparing the way for quinine in the treatment of ague complicated with hepatic and intestinal disorders. With regard to the dose of arsenic, I have generally found four or five minims, three times daily, quite sufficient even for adults. In the case, however, of a girl, aged nine years, I found it necessary to increase the dose of Fowler's solution up to fifteen minims three times daily. Under these large doses she was nearly well when I last saw her—no steady

improvement having been produced by smaller. If prescribed alone, I follow Mr. Hunt's recommendation of giving the arsenic at meal-times; if conjoined with alkalies, I prefer to give it three hours after the meal. Out of all the cases in which I have given arsenic (no inconsiderable number, including the neuralgiæ), I can remember but very few in which it has disagreed, and even in these it is very likely that a smaller dose would have produced no inconvenience. Almost invariably it is borne well by children, and improves their health decidedly. My experience of it, whether in neuralgic affections, or in skin-diseases, is, that it is a most valuable tonic, and I have yet to learn why we should be at all shy of giving it. So far from any disorder ensuing when the cutaneous discharge is checked, I have found the health materially improved. As to Mr. Hunt's precept of producing some degree of conjunctivitis in order to obtain the full curative power of arsenic, I cannot say that I have generally found it necessary to do so, though I am convinced that the healing process goes on very favorably when this has been the case; and I am sure that so long as the conjunctivitis is moderate, there is not the least reason for interrupting the use of the remedy. Scrofulous ophthalmia, with its attendant photophobia, I have not found to cause any impediment to the use of arsenic for a coexisting eczema. The state of the eye and of the face improved together in the case I allude to. The arsenic was combined with iodide of potassium and alkali; and cod-liver oil was given at the same time."

Then follow ten cases, of which we give the first two:

CASE 1.—A. Ph—, æt. 4, a female, was admitted on February 6th, with severe suppurating eczema of the ears, chin, and lips: she was cachetic in appearance, but was said to be strong generally. In my absence, a friend prescribed a weak alkaline lotion and oiled silk; but this was of no avail.

February 12th.—I directed the following ointment to be applied to the affected part:

R Unguenti Zinci, $\frac{3}{4}$ j;
Hydrargyri Nitrico-oxydi, $\frac{3}{4}$ j. M.

A drachm of the following mixture was ordered to be taken three times a day:

R Liquoris Potassæ Arsenitis, $\frac{m}{l}$ l;
Aquæ, $\frac{3}{4}$ ij. M.

19th.—The patient was much improved. The mixture and ointment were continued; and a drachm of cod-liver oil was ordered to be taken three times a day.

26th.—There was improvement: but a good deal of eczema was still present in the fold of the ear. The mixture and ointment were continued; and a drachm of the subjoined mixture ordered to be taken three times a day:

R Liquoris Potassæ Arsenitis, $\frac{m}{l}$ xxx;
Aquæ, $\frac{3}{4}$ ij. M.

March 1st.—Improvement continued: but there was some catarrhal affection of the chest. Three grains of citrate of iron and quinine were ordered

to be taken in two drachms of water three times a day. An ointment was prescribed, consisting of—

R Unguenti Hydrargyri Nitratis, 3iss;
Adipis, 3ivss. M.

26th.—The patient was quite well, having improved steadily under the use of the tonic and ointment. The local applications certainly did not do harm, and I am confident that they did amend the skin disorder.

CASE 2.—Ch. W—, æt. 4, a male, was admitted May 25th. He had been ill seven months previously with an attack of typhus fever. He was very subject to diarrhoea. He had a patch of eczematous eruption in the fold behind the right ear, where the skin was very deeply fissured at one part. Other patches existed on the scalp. The urine was rather high coloured, and offensive. He had had pertussis, measles, and variola. I ordered him—

R Liquoris Potassæ Arsenitis, M^{xxv};
Liquoris Potassæ, 3iss;
Infusi Gentianæ co., 3ij. M.
Sumat 3ij ter die.

R Hydrargyri Bichloridi, gr. v;
Aquaæ, 3ij.
Solve ut fiat lotio.

June 1st.—The urine was absolutely colourless; it deposited pale lithates in small quantity, with oxalates; it was feebly acid, and not albuminous. Hydrochloric acid threw down no uric acid. This examination showed that the assimilative processes were very languid.

By the 22d he was quite well; the only trace of the eruption was a little congestion of the integument. Debility was a marked feature of this case; and the tonic influence of the arsenic told well.

ART. 72.—*Rapid treatment of Itch.* By MM. DUSARD and PELLON.

(*L'Union Médicale*, No. cix, 1855; and *Medical Times and Gazette*, April 12, 1856.)

“The remedy here mentioned is the chloride of sulphur dissolved in sulphuret of carbon. The chloride, easily obtained by the action of chlorine on sulphur, was at first employed in its pure state in minute quantities, but this not acting promptly enough, the sulphuret of carbon was, after various trials, chosen as the best vehicle. Twelve grammes of chloride are dissolved in one hundred of the sulphuret, this being the utmost quantity required for an adult. The application should be made in a well-ventilated room, removing all copper articles liable to tarnish. The patient is placed quite naked on a stool, and his head is covered with an immense cone made of strong paper, opened only at the top, so as to protect the face from the effect of the sulphureous vapours which exhale. The whole surface is rapidly smeared over with the mixture, by means of a large badger’s-hair brush or charpie, applying it especially to the parts where the acari most resort. Any hospital attendant can do this. A general sense of heat, without painful smarting, immediately follows, and the patient

is thus cured in five minutes. The itching ceases as if by magic. After thirty-six hours a bath is taken, the patient being recommended to abstain from washing his hands and neck until then; and baths on alternate days for a week, to complete the treatment. Complications that may have arisen may, however, require treatment; but they soon subside. When eczema predominates, some gelatinous or starchy baths are employed, and porrigo is usually relieved by alkaline baths. When the complications are very aggravated, they should be somewhat modified before the treatment is commenced, or this may cause pain. After disappearing, the itching may return in five or six days, but it is of a different kind, dependent on persistent porrigo, and relievable by alkaline baths."

ART. 73.—*On a new Parasite in Man.* By M. ZENKER, of Dresden.

(*Zeitsch. für Rat. Med.*; and *Dublin Medical Press*, Nov. 28, 1856.)

It was Professor Siebold who first demonstrated from the observations of Drs. Pruner and Bilharz, physicians in Cairo, the existence of a species of the genus *Pentastomum* living in the intestines of man; Siebold gave it the name of *P. constrictum*. The author states that Egypt is not the only country which has the *good fortune* to possess a pentastome; another species, the *Pentastomum denticulatum*, Rud., which had hitherto been met with only in animals, is found in man, and is even very common in Germany. The author has observed this worm seven times, and always in the superior surface of the liver, under the peritoneum. It is contained in a dense fibrous capsule which adheres to the parenchyma of the liver and to the peritoneum, but which admits of being easily detached; it appears under the form of a little tubercle of from 2.25 to 3.37 millimetres (.0935 to .1326 of an English inch), usually filled with a calcareous deposit with which the animalcule is itself encrusted. The capsule is proportionally very thick, and it is difficult to extract the worm from it uninjured; sometimes, however, the capsule separates easily from the earthy concretion, and the worm can then be withdrawn.

The author gives a detailed description of the animal, and the description is accompanied with figures to exhibit more clearly the form of the worm, and especially that of the tentacula with which the head is furnished.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

(A) CONCERNING INFLAMMATION.

ART. 74.—*On Carbuncle and Boil.* By Mr. SYME, Professor of Clinical Surgery in the University of Edinburgh.

(*Lancet*, March 8, 1856.)

“CARBUNCLE,” says Mr. Syme, in a clinical lecture, “is a circumscribed, inflammatory condition of the true skin. It begins with a small red point, which gradually and rapidly extends with a peculiar tingling and pungently painful sensation, much greater than might be expected from the degree of morbid change apparent to sight. The skin becomes loosened in its texture, and swollen, so as to be an inch or an inch and a half in thickness. Small yellow points appear on the surface, and are presented by a section of the dermoid texture, interspersed in the interstices of its substance. These local changes are attended with a more than corresponding amount of constitutional disturbance, the patient being unable to sleep or eat, having an anxious expression of countenance, and presenting all the characters of excessive irritation. If the evil be permitted to pursue its course, it terminates in sloughing of the affected skin, and either death of the patient from exhaustion, or a very tedious recovery from the loss of substance which has been sustained. All sorts of internal remedies and local applications have little or no control over the progress of a carbuncle, and the only effectual method of cutting short its advance is to make a free crucial incision completely through the whole extent of inflamed skin. Immediately upon this being done, the redness disappears, and the pain ceases, the constitutional disturbance soon subsides, and the affected skin, unless already deprived of its vitality, quickly resumes its natural thickness and healthy action, so as to remove all obstacle from the healing process.

“Reason and experience being so decidedly in favour of the practice here employed, I should consider it unnecessary to say a word now upon the subject were I not aware that the most erroneous ideas in regard to the pathology, as well as treatment of the disease, are extensively diffused; and as my duty is not merely to inculcate what seem to me sound principles of practice, but to counteract and extirpate the misleading notions which you may have elsewhere acquired,

I deem it necessary to warn you against the four following errors, which are very generally entertained, and which may, perhaps, in some measure, account for the large numbers of deaths connected with carbuncle in some bills of mortality.

“ In the first place I beg to remind you that the disease is not subcutaneous, but seated in the skin itself. Secondly, that the object of incisions is not to allow room for the escape of matters confined under the skin, but to extinguish the inflammatory action, through discharge of blood and the relief of tension, by dividing the texture in which it is seated. Thirdly, that the application of caustic is the extreme of absurdity, since it directly insures what the great object of treatment should be to prevent, and by destroying the skin affected, instead of restoring it to a healthy condition, necessarily protracts recovery, and renders it less perfect. Fourthly and lastly, I beg to warn you against giving the patient wine and nourishing food, or employing local applications of a stimulating kind, so long as the inflammatory tendency continues in operation.

“ It may here not be out of place to say a few words in regard to boils, which are very nearly connected with carbuncle. Like it they are seated in the skin, begin by points so small as to be hardly perceptible, and extend from the centre in a circumscribed form, with local and constitutional symptoms of disturbance greatly disproportioned to their extent. They are distinguished by being restricted to a smaller size, by presenting a more convex surface, and by tending to suppuration rather than to sloughing. It is true that they contain a white substance, named their core, which looks like, and is often mistaken for, merely dead cellular substance, but is chiefly the result of a morbid deposition. Fomentation and poultices may soothe the uneasy symptoms proceeding from boils, but the only effectual mode of checking their progress is to make a free crucial incision through the whole extent of inflamed skin which constitutes their base. It is often said that ‘opening’ boils does no good, and this may be true, since the incision, like that for the remedy of carbuncle, must be directed, not with a view to evacuation, but to free division of the affected skin. The opinion generally entertained at present, is, that boils should be allowed to pursue their course, under palliatives, with a liberal diet, and patients are frequently met with who have suffered for months, or even years, from their successive formation. Now it seems to me that nothing can be more injudicious than such a procedure, since each boil, instead of being extinguished by a timely incision in its infancy, is allowed to go through the whole of its irritating course, with attendant constitutional disturbance, which instead of benefiting the patient’s system must increase its derangement and liability to similar formations. Between two and three weeks ago a medical man of great respectability in this city called upon me, complaining of a boil on his arm, which he had been poulticing, and did not wish to remedy by incision. Two days afterwards I was asked to visit this gentleman, found him in bed, and was told that he had been deprived of sleep throughout the preceding night by a large boil on his haunch, which, if allowed to pursue its course, threatened to produce a great amount of distress, and seriously to disturb his health. Having

been requested to do what seemed best, I made a free crucial incision, and restricted the diet to milk with farinaceous food. Next day I found the patient down stairs, sitting in his library perfectly comfortable, as he had been ever since submitting to the incision. I have no doubt that if the system at present in fashion had been pursued in this case, my friend, instead of enjoying perfect health, would now have been fairly entered upon a course of annoyance no less distressing than unlimited in its duration."

(B) CONCERNING TUMOURS.

ART. 75.—*The effect of Creosote on Warty Growths.*
By Mr. RAINY, Lecturer on Anatomy at St. Thomas's Hospital.

(*Lancet*, Dec. 8, 1855.)

"In order to secure the full effect of the creosote on the disease, after applying it freely to the part, I prevented its removal by a piece of adhesive plaster put several times round the finger, which was allowed to remain for two days. On removing the plaster, a visible change had taken place in the character of the surface of the excrescence, which now, in the place of being dry and hard, had become so soft and friable as to admit of being broken down by the slightest friction of the finger. The daily application of the creosote was, however, still continued until the remains of the wart had become of a horny consistence, after which, in about a fortnight, it desquamated, leaving the part beneath perfectly healthy.

"The creosote, in this case, caused no pain or uneasiness, or any symptom which indicated an escharotic action on the affected part, but seemed to act entirely by destroying that excessive and abnormal cell-development, which is the essential character of this form of disease.

"In these excrescences there is what pathologists call hypertrophy of the epidermis. The epidermic cells also retain their nuclei and power of cell-growth longer than the normal epidermic cells of the stratum Malpighii of the surrounding parts; and the transformation of these cells into non-nucleated particles or scales, takes place irregularly and at no certain distance from the surface, as in the healthy epidermis. After a time the capillaries become enlarged, but this seems to be only the effect of the excessive and abnormal development of the cells, which are dependent upon their contents for their supply of nutritive material.

"As only one instance of the beneficial effects of this substance would be totally insufficient to establish its claim to be a specific, I asked Mr. Ord, the house-surgeon of St. Thomas's Hospital, if he would try its effects on some of the out-patients, as, if it did no good, it could not possibly do harm, which he informs me he has done with a satisfactory result.

"I may further add, that it seems to me no unreasonable inference, that if creosote is capable of destroying excessive or abnormal cell-growth in the dermic tissue, it may also do the same in analogous dis-

eeses of the mucous tissues, and therefore that it may possibly be applied with advantage in nasal and uterine polypi. In these cases I would not recommend it unless it could be kept in contact with the diseased part for a considerable length of time. I have even recommended a professional friend of mind, who has at this time a case of epithelial cancer under his care, to make a trial of it in this disease.

"As this class of diseases, besides being distinguished by abnormal cell-growth of greater or less activity, is also attended with a disordered condition of the system, the local application of creosote would not of itself be likely to be of much service. In such cases it would require to be taken also internally, and probably to be persisted in for many months, according to the effect it might have upon the local disease or upon the general health. I may observe that I am by no means sanguine as to the beneficial effects of the remedy I am proposing in those diseases which are known by the term malignant. My expectations on this point are far from rising to an extravagant elevation. I merely think from what I have seen of its action that it is just worthy of a fair trial, especially as these diseases are at present incurable, and as the remedy which I propose for their cure or relief, very different to many others employed for the same purpose, is incapable of doing any harm, should it fail to do any good. It is impossible for me to say how far creosote may have been used in the diseases for which I have proposed to employ it. I have not read of any case of the kind where it has been employed, and no one of the medical men that I have interrogated upon the subject knows of any instance of its employment in the same complaint, and with the same physiological view, as that I have advanced. About a month since I went to a medical man's house to ask him if he could furnish me with any cases of warts, &c., upon which he could employ creosote. A person not in the profession was present, who, hearing the conversation, said he had taken a little boy to a druggist's some time before to have something applied to a wart, which he believed was creosote, and which cured it. This is all that I have heard of the employment of this substance in any of the above-named diseases."

(c) CONCERNING WOUNDS AND ULCERS.

ART. 76.—*The treatment of Chronic Ulcers by Opium internally.*
By Mr. SKEY, Surgeon to St. Bartholomew's Hospital.

(*Lancet*, Jan. 26, 1856.)

These remarks occur in a paper entitled 'Reminiscences of Hospital Practice.'

"Abundant have been the examples of treatment of chronic ulcers of the legs and elsewhere by means of the internal use of opium. I know of no treatment at all comparable to this, so rapid, or so efficient. These cases have had many observers, who can bear testimony as to its value. Exactly in proportion to the amount administered is the regeneration of the defective structure. Years will probably yet

elapse before this principle will be universally acknowledged; before the medical community will admit that in opium we have an agent far more valuable than that derived from its *comparatively* worthless power as a sedative. It is notorious that the chronic ulcer—the disease of ten or even of twenty years' duration—is unattended with pain. To suppose that opium effects its local marvels by any sedative property in the drug, appears to me worthy only the advocacy of a senile female, or of an uninstructed youth. If we administer five grains of the soap and opium pill, night and morning, to a man advancing in life, who has been carrying about with him for ten years a large, callous ulcer, with an ash-coloured base, surrounded by high walls of organized lymph, and in which there remains not a vestige of activity, good or bad, advancing or receding, the moisture from which is a hot ichor, becoming sanious under provocation,—if we examine carefully this surface at the expiration of forty-eight hours, we shall find it speckled with red points; these are future granulations, and, in ten days the whole base of the wound will be carpeted with them. And this is the mere result of suspended irritation?"

ART. 77.—*The dressing of Stumps under Water.* By M. LANGENBECK.

(*Medico-Chir. Review, April, 1856.*)

"By various apparatus, constructed in zinc or vulcanized caoutchouc, Professor Langenbeck contrives to keep the wounded part in constant contact with tepid water. The apparatus must not be resorted to where secondary hemorrhage is feared, and thus its application to stumps after amputation should be usually delayed for eighteen to twenty-four hours. In several cases it has, however, been resorted to even before the patient has recovered from the anaesthesia, this saving him from the pains after the operation and from the dressing. The part must be removed from the bath if hemorrhage occurs. When applied immediately, the water should be at a temperature of from 10° to 13° C.; and if the water is not renewed it acquires in from three to twelve hours a temperature of from 15° to 31°. After the first day the latter is that which is most agreeable to the patient; and later, when the wound begins to clean and suppurate, a temperature of 34° to 35° is to be maintained. The patient's sensations usually form the best guide; and the temperature can be maintained pretty equable by covering the apparatus, or by adding warm or cold water from time to time. In summer, with a temperature of 20° to 25°, the water rises in twelve hours to from 34° to 37°; and in winter, at 17° in the room, the water falls to 31° or 30° in the twelve hours. As a general rule, the water requires renewing only night and morning; and if there is a large wound, with abundant suppuration, it should be well washed with a chlorinated solution.

"The advantages of the procedure are thus summed up:—1. Diminution of pain subsequent to the operation. As long as the parts are kept under water, whatever the size of the wound, no pain is complained of, although this at once becomes severe when they are exposed; general shivering then, too, coming on in a quarter of an hour.

The author has never observed the shiverings, so frequently met with after large operations, when the water was at once applied. No dressings are required, the sutures are removed under water, and the greatest cleanliness is secured. 2. The traumatic and suppurative fever is much diminished in intensity. 3. The removal of the secreted fluids is favoured, and their decomposition prevented. If the wounds are deep or sinuous, injections must be used, and the free issue of the discharges must be secured by the usual means. 4. Cicatrization is more prompt. 5. Professor Langenbeck believes the means to be operative in preventing purulent infection."

ART. 78.—*Treatment of Chancre.* By Dr. SIGMUND.

(*American Quart. Jour. of Med. Science*, Oct., 1855.)

From observations conducted on a large scale at the Vienna Hospital, Dr. Sigmund concludes—1. Chancre can only be treated locally during the first four days, and the further we recede from this, the greater the urgency of the general treatment. 2. The local treatment consists in cauterization, which effectually destroys all the chancrous exudation to the sound tissue. 3. The observation of more than a thousand cases during eleven years, assures Dr. Sigmund that secondary symptoms never occur when the chancre has been completely destroyed within the first four days. He is only aware of two doubtful cases in which cauterization on the fifth day even has not prevented accidents. The best caustic is the Vienna, composed of quicklime and two or three parts of caustic potass. Cauterization should also be practised even after the fifth day, for although the chances of preservation from secondary syphilis are diminished, they are not totally abolished; and we prevent the chancre being communicated to other parts of the same patient, or to other individuals. 4. The general treatment consists in the methodical employment of mercury, no other means curing so quickly and so surely. 5. In the exceptional cases in which secondary symptoms occur in spite of general treatment, they are not found in an aggravated form. 6. According to circumstances, the general treatment should be continued for six or twelve weeks. The levity with which the public and the profession at the present time regard venereal symptoms should be met by the strongest opposition. 7. Clinical observation shows that every chancre, well diagnosticated, and not carefully destroyed, leads to secondary symptoms, if general treatment has not been instituted. This will be admitted by all who establish a regular diagnosis, and look for secondary symptoms soon enough where they are first to be found, viz., in the lymphatic glands. 8. Positive diagnosis is alone attainable by inoculation or the production of secondary symptoms. 9. Secondary symptoms are usually observed about the sixth week after infection, and very rarely later than the twelfth; and we must not always depend upon the patient's assertion, but make ourselves a rigorous search for their early manifestation. If between the sixth and end of the twelfth week no secondary symptom has shown itself, and the local manifestation has disappeared, the patient may be pro-

nounced cured—the few exceptions that occur notwithstanding. 10. The amount of mercury administered varies according to the indications offered by different patients. The dietetic and hygienic management, both during and after taking the mercury, is too much neglected.

(D) CONCERNING DISEASES OF THE BLOOD-VESSELS.

ART. 79.—*A case of extensive Arterial Obstruction.* By Mr. SAVORY, Demonstrator of Anatomy at St. Bartholomew's Hospital.

(*Lancet*, April 5, 1856.)

In this case the main arteries of both upper extremities and of the left side of the neck were completely obliterated. The case was read before the Royal Medical and Chirurgical Society.

CASE.—A. M. W—, æt. 22, was admitted into St. Bartholomew's Hospital on November 27th, 1854. No pulse could then be detected in any part of either arm. There was feeble pulsation in the right carotid; in the left, doubtful. A harsh systolic bruit was audible over the top of the sternum, which disappeared on tracing it downwards, and a feebler one was heard in the course of the right common carotid. She complained of general debility, of headache, vertigo, and obscure pains in various parts. She had been delicate ever since she was a child. There was satisfactory evidence to show that the pulse had ceased to beat for some years past. There was no distinct history of any previous attack to which her present condition could be referred. She remained in the hospital until she died—a period of thirteen months. During this time her strength gradually passed away. The sight of the left eye began to fail, and at length was nearly lost: an ulcer formed on the cornea, which yielded to tonic treatment. Subsequently, ulceration commenced in the integuments over the left parietal eminence, and, resisting all remedies, gradually extended, until the bone, and ultimately a portion of the brain, were destroyed. During the last few weeks of her life she was much distressed by impaired and disordered motion and sensation on the right side.

After death, the following condition of the arteries was revealed: The whole of the arteria innominata was much thickened, and it required considerable pressure to approximate its walls. The lining membrane was pale and smooth, but dull and opaque. The internal coat separated with the slightest force from the middle, and was almost as thick as the other two coats together. The middle and external coats were denser than natural, and slightly thickened. Owing to this morbid state of the tunics, a section of the vessel presented a remarkable appearance. The distinction between the coats was strikingly obvious. When the internal coat was stripped off from the middle, in a great part of the vessel irregular patches of an opaque yellowish deposit came off upon the outer surface of the inner coat, but some remained upon the inner surface of the middle. This deposit, to minute examination, presented all the characters of consolidated lymph intimately blended with the arterial tissues. It was probably in process of degeneration, for here and there many small globules of an oily nature could be detected. This morbid change extended into the right carotid and commencement of the subclavian artery. In the whole of the former vessel the

same change, although to a less extent, was apparent: it was contracted and much thickened; there was no clot in the interior; the inner surface was not reddened. About an inch or less from their origin, the right subclavian, the left carotid, and the left subclavian arteries became suddenly contracted to one fourth or one fifth of their natural size. This change extended throughout these vessels: through the axillary, brachial, radial, and ulnar arteries on both sides, and the left external carotid artery. The contracted canal in their interior was completely blocked up and obliterated by a fibrous cord, which extended with scarcely any interruption throughout their entire length. Thus all the main arteries of both upper extremities and of the left side of the neck were reduced to solid cords. Other morbid appearances, of less moment, were described in the paper.

In his remarks upon the case the author observed that, from its history, the progress of the disease had probably been gradual, and unaccompanied by any acute or violent symptoms. He believed that the symptoms observed during life might almost all be referred to a deficient supply of blood to those parts of the body to which the obliterated arteries were distributed. The author then remarked upon the objection which the facts of this case opposed to Rokitansky's views on the subject, and discussed the question at some length. Lastly, he referred to the origin of the fibrous cord which filled up the interior of the contracted vessels. He believed it to be the remains of the blood which had coagulated in the canal, and not an exudation from the arterial tunics; and concluded by giving the grounds upon which this opinion was founded.

(E) CONCERNING DISEASES OF THE BONES AND JOINTS.

ART. 80.—*On Myeloid and Myelo-cystoid Diseases of Bone.*
By MR. HENRY GRAY, Lecturer on Anatomy at St. George's Hospital.

(*Lancet*, March 15, 1856.)

In a paper read before the Medical and Chirurgical Society, on the 26th February, 1856, the author detailed the history of nine cases of tumours of this form removed during life, with a minute description of the results of his own microscopical examination of six of the tumours. The results at which he arrived were as follow:—That these tumours were not of a malignant nature, although in several of the instances given they had been so regarded both previous to and after removal by operation; that, on the contrary, their minute structure bore the closest analogy with the normal constituents of the marrow and other elements of bone in the early periods of life; that their growth is confined to the osseous texture, or its investing membranes, the periosteum and dura mater; that they occur at a period of life when the normal constituents of the medulla exist in the greatest amount, and are developed in those parts of the osseous system in which those structures exist in a most distinct and well-marked form, (all the cases given took their origin in the epiphysal ends of long bones;) that they are occasionally mixed with the other elements of

bone in a rudimentary state, as fibrous tissue and cartilage, and even with bone itself; that they may probably occur in any bone; that since they are thus found to consist of an abnormal amount of some of the normal constituents of the medulla, the medulla cells, the name "myeloid" given to them by Mr. Paget is most appropriate, (the author proposes to add the term "cystic" to such of them as present a mixture of cysts with the structure above described, and regards their fibrous element as most probably derived from the organization of lymph effused as a result of chronic inflammatory action, or from some abnormality in the development and growth of the fibrous element of bone;) that they occur in all the cases at present recorded at an early period of life, and that their growth is generally much less rapid than malignant disease, both which facts afford important diagnostic marks to distinguish them from malignant growths; that the absence of the malignant cachexia, of glandular lymphatic enlargements, and of disease in internal organs, combined with the facts that although these tumours attain occasionally a considerable size, yet they present no tendency to ulcerate or protrude externally, and generally retain some surrounding shell of bone within which they have grown, serve as additional aids to the surgeon in forming a diagnosis between myeloid and malignant growths; that they do not return when entirely removed; and that for all these reasons they are to be regarded as innocent tumours.

ART. 81.—*Cases of Fragilitas Ossium.* By (1) Mr. THOMAS WAKLEY, Surgeon to the Royal Free Hospital; and (2) Mr. HENRY THOMPSON, Surgeon to the Marylebone Infirmary.

(*Lancet*, Jan. 12, 1856.)

(1) *Mr. Wakley's case.*—J. T.—, a cabman, aet. 42, was admitted into the ward on May 10th, with rupture of the ligament of the patella of the right leg. The patient, a stout and robust man, states that he has generally enjoyed good health, and has never suffered from any injury in the leg before. His account of the accident is, that he was in the act of getting up to the seat of his cab, having placed his left leg on the wheel, and just raised his right leg, when he felt something give way in the knee, which he says felt as though a piece of cord had been cut through. He was unable to put the leg to the ground, and swelling immediately commenced above and below the knee. He was forthwith put in a cab, and conveyed to the hospital; when the house-surgeon found the patella about three inches above its natural situation.

June 30th (about seven weeks after the occurrence of the injury).—The leg has much the same appearance as the sound one, with the exception of a little swelling around the knee and two inches below it. The patient has, however, the power to raise the limb, and to flex and extend it; but he is unable to walk, as he cannot support the weight of his body on the affected limb.

July 7th.—The patient is up for the first time. An instrument has been made for him, consisting of three steel rods, connected at each end by a band of leather, one of which is fastened above and the other below the knee. With this instrument and a stick he is able to walk for a short time, but requires rest every five or ten minutes.

19th.—To-day, whilst walking about the ward, the patient felt something give way in the right thigh, and on the house-surgeon coming to him he found the poor man had fractured his right femur at the middle third. There was no fall or other injury to cause the accident. The fracture occurred spontaneously while the man was walking about. He was put to bed, and Liston's straight splint applied. The fracture was a transverse one.

August 3d.—The limb was re-bandaged to-day, but it was found that there was no callus thrown out. He was ordered to remain quiet, and to take four ounces of port wine and three ounces of brandy daily, and milk.

17th.—The limb was put up in starched bandage to-day; a little callus has been thrown out around the fracture, but it is very soft.

September 8th.—The limb continues in a good position, and during the last day or two the patient has got out of bed, and sat in a chair. Pain at the lower end of the left tibia, and on examination it was found that there was some enlargement of the bone at the point of uneasiness. A cantharides blister to be applied over the enlargement.

9th.—Still complains of the pain. To remain in bed.

14th.—Patient is much better; no pain.

23d.—Fractured femur re-bandaged; callus still very soft.

October 18th.—Callus somewhat firmer. The fractured limb was this day put up in a short straight splint, reaching from the hip to three inches below the knee. The patient is ordered to get up to-morrow.

22d.—He has been able for the last three days to walk about on crutches, the leg being supported by a bandage slung from the neck.

24th.—Whilst walking about the ward, with the assistance of the nurse and another patient, he fractured the left fibula, about two inches from its head. There is a good deal of effusion about the seat of the fracture. He received no injury whatever to account for this third disaster.

December 31st.—The patient is now again sitting up in a chair, with both legs enveloped in gum and chalk bandages, but is as yet unable to walk, or bear the weight of his body on his limbs.

The medical treatment of the case has been chiefly directed to the improvement and invigoration of the constitution generally. The man now takes large doses of cod-liver oil, combined with generous diet.

Mr. Wakley believes that the *fragilitas ossium* is due to one of two causes, viz., syphilis, or *morbus mercurialis*. The pains in the bones, the node on the left tibia, and the state of the mouth, showing the results of excessive salivation, all tend to the confirmation of this opinion. The patient states that he has always been a very temperate man, and positively asserts that there is no scrofulous or cancerous taint in his family.

(2) *Mr. Henry Thompson's case.*—Susan W—, æt. 58, had a scirrrous growth excised from her left breast five years ago in University College Hospital; and last June twelvemonth, it was found necessary to remove the axillary glands, which were attacked with cancer. Shortly after this second operation, she was admitted into the Marylebone Infirmary, with severe pains in her lower extremities, that rendered her unable to work; and upon the occasion of her being moved from one apartment of the institution into another, her right femur was fractured. This accident occurred about a year and four months from the present time. In August last, a second catastrophe occurred, the left femur breaking as the poor woman was turning herself in bed. The fractures have failed to unite, and consequently both limbs have contracted and have become painfully distorted. The pains still continue, but are allayed by belladonna plaster.

ART. 82.—*On Bone diseased by muscular overstraining.*
By Mr. SALLY, Surgeon to St. Thomas's Hospital.

(*Lancet*, Nov. 3 and Dec. 8, 1855.)

These remarks, and the case upon which they are founded, appear in a clinical lecture on diseased bone:

“ Sometimes, without any actual laceration of the surface of the bone taking place, the disease takes its rise from the tendinous attachment of a muscle, and extends to the ligaments and articulating surfaces in a joint. In some of these cases you find the bone neither carious nor necrosed, but the periosteum enormously thickened, and the bone in the immediate neighbourhood softened. This is especially the case when the injury is through the medium of tendon, which performs the double office of a conductor of muscular power, and a ligament or guardian of a joint. Let me remind you of the origin and relation of the tendon of the popliteus muscle to the knee-joint. It arises in a deep pit on the outside of the outer condyle of the os femoris, a little above the articular margin of the bone; it descends obliquely behind the knee-joint, where it attains the space between the femur and the tibia; it is lined internally with the synovial membrane of the joint, and now plays the part of a true ligament. If, therefore, from any sudden or violent exertion on the part of this muscle its origin from the bone is injured and inflammation set up, you can readily understand how such inflammation may be extended to the knee-joint. This view is no mere theory. I will relate to you briefly a case, which many of the older students will remember as interesting me very much at the time. It would not yield to those measures which I have so frequently demonstrated to you are successful in arresting scrofulous disease of the cartilages; and though I was at last obliged to have recourse to amputation, I believe I delayed the operation, hoping against hope, some months after the case was considered hopeless by many who watched it with equal interest with myself.”

CASE.—“ E. B.—, æt. 21, dark eyes and hair, rather strumous diathesis, was admitted under my care on April 11th, 1854. The knee is swollen and the shape altered, but apparently more from external than internal effusion. All motion gives her increased pain, which is not severe when at rest. It is much aggravated by pressure on the outer side, where there is a fistulous aperture, from which there is a slight discharge.

“ *History.*—Two years previous to her admission she slipped and fell on the grass suddenly, when preparing to run a race, and immediately felt a severe smarting pain in the right knee; it caused her to limp for a few hours, but she did not leave the pic-nic party she was at, nor did she lay up until four days had elapsed.

“ From this portion of the history we learn that the knee was not injured by a blow, but by a violent muscular exertion to save herself from falling after her foot had slipped upon the grass. The popliteus muscle would be called into play on such an occasion. The injury at this time could not have been very severe, for she did not lay by altogether until seventeen months after the receipt of this injury. If therefore she had rested it at once, I have no doubt

that the serious mischief which afterwards ensued might have been prevented. About seven months ago the joint became enlarged and painful, and during the first month she used to lie upon a sofa during the daytime, and to walk up-stairs at night; at the end of that time, one evening when she was going up-stairs she experienced a sudden and severe pain in the knee, and felt as if something had given way in the joint. Since that night she has never been able to set her foot to the ground, and has lost all power of moving it, resting on it in the slightest degree, or any attempt to do so, giving her the most excruciating pain. At this time I believe that the connection between the tendon of the popliteus and the external semilunar cartilage was torn through.

"The surgeon who attended her placed the limb on a wooden splint, applied blisters from time to time, altogether amounting to eleven, eight leeches at six different times, cupped once, and used one seton. The pain during the last seven months has been very severe, sometimes worse at night, sometimes better; the general health does not appear to have suffered much. She has been well supported with wine, brandy, stout, and meat, all in moderation. Suppuration took place; the matter accumulated, and a swelling formed on the outer and back part of the joint. The surface broke, and a large quantity of pus escaped, and this opening has not healed.

"I shall not weary you by reading the daily notes, though they are well taken and interesting, if our time was not so short. Repeated abscesses formed in the neighbourhood of the joint, and she had two or three severe attacks of haemoptysis, and her sufferings at times were frightful; but still her health did not give way rapidly, and for ten months I combated the disease. At the end of that time it was clear that she must sink into her grave if her limb were allowed to remain on. On the 28th of February I amputated it, under chloroform. I made a very long stump, as her friends were able to afford her an artificial leg. She rallied quickly after the operation, and left the hospital quite well on the 29th of April, little more than a twelvemonth after her admission.

"The examination of the knee-joint disclosed the following condition: The patella was adherent to the femur by slight bands. The greater part of the cartilage was healthy, but there were patches of ulceration, and from the patches these adhesive bands sprung. The cartilage was nearly entire, and sound over the front of the femur in a rotulatoe furrow, and also over the inner condyle, but it was gone over the whole of that portion of the outer condyle which articulates with the tibia. This bone was bare, soft, and eroded. The corresponding surface on the tibia was in a similar condition. The outer semilunar cartilage was softened and pulpy, and nearly absorbed. The tendon of the popliteus was brown, pulpy, soft, and disintegrated, and also the anterior cruciate ligament; the posterior was discoloured, but firm. The periosteum covering the lower and back part of the femur was thickened, but not so much so as that on the tibia, which was nearly one sixth of an inch in depth. The bone underneath was soft, but not carious. There was a large abscess in the lower part of the popliteal and upper part of the posterior tibia spaces. The popliteus muscle was thickened and infiltrated with serum, and completely disorganized.

"The appearances just described are not those of an ordinary case of strumous ulceration of the cartilages. I must confess that I was glad to find that such was the case, as I believe it is only the second time that I have amputated a limb for disease of the knee-joint since I have been an officer of this hospital. In every other instance I have been able to procure ankylosis, though in one it required three years to accomplish it."

(F) CONCERNING ANÆSTHETICS.

ART. 83.—*Further remarks on the cause and prevention of Death from Chloroform.* By Dr. Snow.

(*Medical Times and Gazette*, Feb. 2, 1856.)

In a paper read before the Medical Society of London, on the 26th of January, 1856, Dr. Snow said that he had pointed out, on a former occasion, as a result of experiments on animals, that, when the vapour of chloroform was sufficiently diluted with air, it produced its effects very gradually, and, if continued till death took place, the breathing ceased first, while the circulation went on till it was arrested for want of the respiration, as in asphyxia; while, on the other hand, if, at any moment, the vapour were not sufficiently diluted, it was absorbed from the lungs and circulated through the coronary arteries in such quantity as to stop the action of the heart by its direct influence. He considered that all the accidents which had happened during the exhibition of chloroform had occurred in the latter way, and never from the medical man mistaking the symptoms, and going on too long to administer chloroform sufficiently diluted with air. Dr. Black, of St. Bartholomew's Hospital, had, however, lately advanced the opinion that the patient did not die from the pathological effects of chloroform, but died simply of asphyxia, before they were brought under its influence, owing to the respiratory movements being arrested, or impeded by the pungency of the vapour, which had been administered in too concentrated a form at the commencement of the inhalation. He, Dr. Snow, considered this opinion incorrect for various reasons:

1. The process of dying by asphyxia occupied from four to nine minutes, after the access of air to the lungs was completely cut off; but no medical man could overlook the fact that his patient was not breathing, and persevere in preventing his doing so for this length of time.

2. In the greater number of cases of death from chloroform, the patient really inhaled the vapour, so as to be quite insensible from its effects, before the symptoms of danger set in. Out of 44 deaths from chloroform, 7 took place when the surgeon was just about to begin the operation; 12 occurred during its performance; in 8 cases the operation, being of short duration, was completed before it was discovered that the patient had expired; and, in the remaining 17 cases, the inhalation was discontinued, at some period of its progress, owing to the sudden occurrence of alarming symptoms.

3. In every case in which the state of the pulse had been noticed at the time of the accident, it was found to cease suddenly and abruptly. This was totally different from what occurred in asphyxia, where the pulse retained its strength for some time, and then gradually diminished in frequency and force.

4. In twelve of the cases of death from chloroform, the face was observed to become suddenly pale at the moment when symptoms of danger set in. This symptom was indicative of cardiac syncope, and

was incompatible with asphyxia; it had probably occurred in many cases where it was not recorded.

5. In several of the cases in which death occurred during the performance of the operation, attention was first called to the patient's danger by the sudden stopping of the hemorrhage: a symptom which also proved death by syncope, and not by asphyxia.

6. When animals are killed suddenly by chloroform, so as to imitate the accidents to the human subject, the blood is found to be of a florid colour in the lungs immediately after death.

7. Except sometimes in the case of children and lunatics, it is not the custom to restrain a patient, so long as he is conscious. If he complains of the pungency of the vapour, it is accommodated to his feelings; and, therefore, it is impossible that death should take place from the cause indicated by Dr. Black, unless in children and lunatics, to whom no accident from chloroform has yet happened.

8. The vapour of sulphuric ether was as pungent as that of chloroform, but accidents did not happen during its use.

A serious error, with regard to chloroform, was to suppose that the patient was safe so long as he had sufficient air for the purposes of respiration; the truth being, that the more air he breathed the greater was his danger, if the air were too highly charged with vapour. The air breathed by the patient should never contain more than about 5 per cent. of the vapour of chloroform; if it contained 8 or 10 per cent. it was liable to cause sudden death by suspending the action of the heart. He (Dr. Snow) recommended the use of an apparatus for regulating the quantity of vapour of chloroform in the air, but those who preferred to use a handkerchief, or sponge, might avoid the risk of danger, by diluting the chloroform with an equal measure of rectified spirit before using it. In case of accident, he considered the artificial respiration, very promptly and efficiently performed, afforded the best prospect of success.

ART. 84.—*On Death by Chloroform.*
By DR. JOHN ADDINGTON SYMONDS, of Bristol.

(*Lancet*, March 22, 1856.)

It will be allowed by most observers, remarks Dr. Symonds, in a paper recently read before the *Harveian Society*, that in a very large proportion of deaths from chloroform, narcotism, in one form or other, is the first antecedent in time, and the most important in influence, when operating in its most favorable manner and degree. The chloroform having arrived at the *encephalon*, benumbs the central ganglia related to general sensibility, and in most cases involves also the ganglia of special sensation, as well as those of volition. But when the action becomes dangerous, it extends to the respiratory centre (*medullary oblongata*), and the patient dies in the way of *coma*. The order of events is, insensibility, interrupted breathing, and stoppage of the heart's pulsation; death. The series is identical with that which occurs in *anæmic coma*, or in *congestive apoplexy*. In such cases the intimation of peril is first given by the breathing, and

if attended to, may save the patient. In another set of cases, death has been thought to take place in the way of asphyxia, or, to use Dr. Watson's more accurate term, *aphnœa*; the fatal series beginning in the respiratory passages and cells, either because the air is too largely impregnated with chloroform to be chemically fit for respiration, or because the chloroform, by its pungency, excites spasmodic closure of the glottis. "Each of these agencies," said the author, "may be an element, but I doubt its being unmixed with narcotism. The patient must have been stupefied in some degree, else in the struggles for breath there would be signs of consciousness in the unmistakeable reference by the gestures to the cause of distress and danger. Still such cases may be conveniently classed under the category of *aphnœa*, as an early and prominent fact. But in a third and more fearful, because more sudden and less remediable group, the chief character is the early cessation of the heart's action. The patient dies in the way of syncope. Dr. Snow, the most philosophical and skilful investigator of chloroform, after its immortal discoverer, Dr. Simpson, is of opinion that the heart is directly paralysed by the poison in the blood. This view seems hardly admissible for two reasons:—First, in animals narcotized and killed by chloroform, the heart has been found capable of contraction, after all respiratory action had ceased; secondly, the supposition is superfluous; the direct action of the poison on the encephalon we know to be a fact—its direct action on the heart is only conjectured as probable. The former explains sufficiently the cases in question; therefore the latter is superfluous. But how does the former yield the requisite elucidation? Thus, we know that either by reason of a peculiar susceptibility, or by the suddenness and violence of an impression on the nervous centres, syncope—that is, stoppage of the heart's action—takes place in the way of shock. It is thus that the heart is paralysed by passionate emotion, by concussion of the brain, by crushing of limbs, by the instant apoplexy resulting from a large cerebral hemorrhage, which causes sudden and extensive compression, or from a smaller hemorrhage in the medulla oblongata, whether the fatal influence is transmitted through the sympathetic or the par vagum we need not stop to inquire. Analogous to such cases, in my opinion, is the occasionally sudden and overwhelming operation of chloroform on the nervous centres, and from these transmitted to the heart. The time is short for observing the phenomena in these deadly cases; but the pulse suddenly drops, the face shows a ghastly pallor, and there is a slight twitching of the features, a faint gurgling of the breath, and the patient swoons into death. In cases which have stopped short of this tragic ending, there has been vertigo, with fluttering of the heart, nausea, vomiting, extreme paleness of the face, and feebleness of the pulse, symptoms like those of slight concussion of the brain. In three instances I watched these phenomena with fearful interest, life having become almost extinct, without one sign of interrupted breathing, but with every indication of deadly faintness. That any narcotic agent may, even in small quantities, act variously on the nervous centres, is matter of daily observation. The normal operation of a quarter of a grain of morphia is to send the patient into a sound sleep. But in some individuals the hemispherical ganglia are

so excited, that delirium is the result; in other cases the patient suffers nausea, vertigo, faintness, and coldness, without any previous illness. These symptoms do not come on so suddenly as when they are induced by chloroform, and in the former case the quantity of the narcotic introduced into the system is not increasing every moment, as in the latter case; therefore these symptoms gradually subside. The danger of chloroform consists mainly in the suddenness with which it operates—the very property which renders it so valuable as an anæsthetic. Suddenness of action modifies the operation of all agencies on the encephalon. The gradual compression of a morbid growth produces phenomena very different from those which ensue on a hemorrhagic clot of the same dimensions; or, what is more to the point, blood exuding slowly from ruptured capillaries in the brain, gives rise to changes of function very different, in kind and in degree, from those which ensue on the same amount poured out suddenly from a larger vessel. And this, again, corresponds with Mr. Philip's experiments as corrective of the inference drawn from those of Legallois; for, while the latter had concluded that the heart derived its contractile power from the cerebro-spinal axis, because destruction of the nervous centres was immediately followed by cessation of the heart's action, Mr. Philip proves that this effect did not occur if the injury was inflicted slowly instead of suddenly. That patients may die of chloroform in the way of syncope, is, I think, fully borne out by necroscopic observations. In several cases it is on record that blood was found in both ventricles, and in other cases that both were empty, neither of which conditions is significant of death by aphnæa. Moreover, it appears that many have died in less than two minutes: from three to five minutes is the shortest time allowed to death by aphnæa. Out of twenty-five cases in a table published in the 'Provincial Association Journal' (February 11th, 1853), I find that in nine cases it is expressly stated that death took place either within two minutes, or less, or 'instantly.' Stress has often been laid on the gorged condition of the lungs. This appearance in some of the cases is wanting, and when it is stated to have been present we do not find such evidence as would enable us to discriminate the amount due to the fact that the patient died suddenly and full of blood, from the amount assignable to death by aphnæa. The heart has been occasionally found in a state of fatty degeneration of fibre; when thus structurally weak, its function is of course more likely to cease, whether the antecedent has been the interrupted breathing of coma, that of pure aphnæa, or the shock from the nervous centres. To the danger of this, it has been the chief object of this brief paper to suggest some attention. To some of the members of this learned Society these remarks may appear so obvious that they ought not to occupy any of the time devoted to an evening meeting; but I cannot forget that men of the highest standing in the profession have seemed to ignore that mode of death from chloroform of which I have been speaking, and say authoritatively that the signals of impending danger are to be looked for only in the respiration. Chloroform is so priceless a boon to mankind, that we should all endeavour to ascertain, with the utmost exactness, the nature of the difficulties and perils which beset

the use of it; and by so learning to prevent or overcome them, we may abate, if not altogether remove, the apprehensions which hinder recourse to this assuager of the anguish of disease, this spell against the terrors of surgery. I therefore venture to say to my brethren, that however important it may be to watch the breathing, we must not be content with doing this alone. Life rests on a tripod: each of its three supports must be cared for; the narcotic surpriser of the encephalon may tell fatally on the heart, before the lungs have felt any disturbance of their function. It is our duty to insist on full recumbence, to watch the lips, the cheeks, and the pulse, and to be prepared to drop cold water on the face, and to apply galvanism when the indications of syncope are very manifest. I would even throw the head below the level of the body, as in extreme anaemia; for though the head has been for the time paralysed through the brain, the latter organ must be immediately influenced in its turn by the failure of the circulation, so that the heart, which might otherwise have recovered from the first shock, has its action still further depressed by that very condition of the brain which the failure of its own function had deepened. So true is it that the healthful round of life may, by one interruption of the rotation, be converted into a vicious circle of disorder and death."

ART. 85.—*On some unnoticed effects of Chloroform.*
By Dr. C. HAPPOLDT.

(Charlestown Med. Journal and Review, Jan., 1856.)

Besides showing the large quantity of chloroform which may be introduced into the system without producing death, Dr. Happoldt is desirous of calling attention, in the following remarks, to some of its local effects on the nerves of special sense—whose seat of function is located in the passages through which the vapour passes on its way to the lungs—and to its remote effects produced on the organs supplied by the nerves which proceed from the lower segment of the spinal column. He says—

“ Two cases recently came under my observation, which are interesting for the exhibition of these phenomena. The subjects of both were of the nervo-lymphatic temperament, and of sedentary habits. They had, during several months, resorted to the inhalation of chloroform for the purpose of procuring sleep, when this desired condition did not naturally occur at a seasonable hour. One or two ounces generally induced tranquil slumber, without being followed by any unpleasant consequence, except slight nausea, which usually disappeared after the morning meal.

“ One of these patients had an attack of asthma, to which he had been previously subject; and being aware of the antispasmodic and anaesthetic properties of chloroform, he unadvisedly put himself under its influence, and continued the inhalations for forty hours; during which time he inhaled *twenty ounces of the fluid*. The asthma was relieved, and has not since returned—nine months having now elapsed—but he was left in an uncomfortable condition. The sense of smell

was abolished, and that of taste perverted. The bladder and rectum lost their tonicity and excitability. When the former became distended, a concentrated effort of the will was necessary to effect urination. The latter remained for several months in a torpid condition, requiring the constant use of cathartics to effect the evacuation of its contents. The sexual appetite was for many weeks abolished, and the restoration of the functions of these organs was slowly accomplished. Saline substances were urgently craved for, and freely taken. Brandy was not disagreeable, and appeared to be of use in restoring the healthy conditions of the organs involved.

"The other patient supposes that he inhaled four fluid ounces without interruption, from the fact that the phial which had contained that quantity was empty on the following morning. He remained unconscious ten hours, and on awaking experienced no unpleasant symptoms. While breakfasting, he noticed the strange taste of the various dishes of which he partook; but the taste of coffee was peculiarly unpleasant; and it was with difficulty that he could be persuaded that it was not the substances which he ate, but his sense of taste, which was at fault. During the day, whatever he ate appearing perverted in flavour, he became convinced that the cause of his altered sensations lay in his organ of taste. For more than a month neither fruits, wines, tea, nor coffee, could be taken with relish, and it was not until the expiration of two months that the sense of taste was restored.

"The sense of smell was, for nearly the same length of time, almost abolished. The nostrils were nearly closed by the swelling of the mucous membrane. The tongue became pale in colour; and the mucous membrane of the mouth and throat was flaccid and swollen, as was that of the nares.

"Coincident with these phenomena, the penis was felt to be unusually flaccid, and there was no inclination to urinate. It was only after the bladder became considerably distended that urination was possible. There was no pain, but a strange sensation along the urethra while the urine was passing out. The specific gravity of this excretion was somewhat below the normal standard, and it contained a large proportion of the triple phosphates, and a trace of the crystals of uric acid. During two months there was no erection of the penis. The patient believed that the secretion of semen was not interfered with, from the sensation referred to the testes, and the desire which existed for sexual indulgence. The inability to perform the act he attributed solely to the paralysis of the perineal muscles.

"The rectum and intestines partook of a similar torpidity with the urinary organs; but the sphincter ani retained its contractile power. For a week there was no evacuation from the bowels, and no uneasiness was felt therefrom. The saline cathartics had very little effect. Calomel, rhubarb, aloes, and other more drastic substances, were found most efficacious. Nux vomica and strychnine, arnica, and iron, were resorted to, with no perceptible effect over the paralysed organs. Brandy, which was most agreeable to the taste as a beverage, appeared to mitigate the symptoms, and was freely taken during their continuance.

"After the expiration of two months, the only remaining effect of the chloroform was constipation, which remains until this time (December 20th), five months since the last inhalation. This patient had never before suffered from constipation: now defecation seldom occurs without the aid of a cathartic."

(G) CONCERNING OPERATIONS.

ART. 86.—*Analysis of cases of Amputation of the Limbs, in the Radcliffe Infirmary, Oxford.* By Mr. HUSSEY, one of the Surgeons to the Infirmary.

(*Medical Times and Gazette*, April 26, 1856.)

The capital operations in the Radcliffe Infirmary are recorded in a register kept for the purpose, the entries being made from notes taken at the time of the operation. In this register and in the admission-books are noted 164 cases of amputation from all causes, which are arranged in the paper in separate tables. Among the cases of disease, 91 were for diseases of joints; 55 of these were in the thigh, of which 10 were fatal; 6 died from the immediate effects of the operation, and 4 did not recover sufficiently to be sent home. The mortality varied in the practice of the different surgeons. Of 20 cases in the leg, only 1 died; of 6 cases in the upper arm, and 10 in the forearm, all recovered. Among those who recovered from the operation, 17 never permanently regained their former health; 3 died from accidental illness; in 1 the cause of death was not ascertained; 16 others died with phthisis, at various periods after the operation; the subsequent history of 5 was not known; the rest are all now in good health. The mortality was not affected by the duration of the disease, or the extent of disorganization of the joint. The proportion of men who undergo amputation in early stages of disease is greater than that of women; in later stages the proportion of women is greatest. The operations for diseased joints in boys and girls under puberty are not successful; a larger proportion than in adults die from the effects of the operation, or do not recover their health after amputation. In 5 cases of malignant diseases, 2 died after operation; in 1 the disease returned within a year; the other 2 are living. In other diseases, necrosis, caries, gangrene, elephantiasis, old ulcerations, and inconvenient limbs, all the patients recovered. Of 6 cases of primary amputation of the thigh, only 1 recovered, and in that case the injuries were confined to the leg below the knee. In all the fatal cases, the operation was performed after very severe injury. All the operations on the leg (12 in number) succeeded. Of 15 on the upper arm, 3 died; and of 14 on the forearm, 1 died. Among the secondary operations, only 1 died, after amputation at the shoulder-joint for a burn. The operations were mostly done by circular incision. The chief veins of the limb were tied whenever they bled, without any bad consequences. The stumps were generally tied at the time of the operation. In several cases, where the stump was left open after the

operation, there was secondary hemorrhage, and in all of them union was very slow. The healing of the wound, or the discharge of the patient, was retarded by so many accidental causes, that it was not easy to make a fair estimate of the time occupied in the recovery. The forearm generally healed rather sooner than the upper arm, and the upper arm rather sooner than the leg, the thigh being much the latest. After amputation for diseased joints, the stumps healed sooner than in other diseases. The greatest delay was after primary operations for accidents.

This paper was read before the Royal Medical and Chirurgical Society.

ART. 87.—*A word on Paracentesis.* By Mr. BIRKETT.

(*Assoc. Med. Journ.*, April 26, 1856.)

A new mode of "tapping," or performing the ordinary operation of paracentesis abdominis, recently adopted by Mr. Birkett, deserves a word of notice. Every surgical practitioner must be aware how commonplace and uninteresting this operation has become, and how very like the analogous process as regards a beer-barrel; thus justifying in some measure the association of ideas with which the literal acceptation of the term, the process of "tapping," has come to be regarded by students and surgeons in operating theatres. Mr. Birkett proposes that the fluid should flow away by a piece of vulcanized India-rubber tube being slipped over a sort of flange on the canula, through which the trocar is passed; this piece of India-rubber tube fitted on to a further piece of tube of any convenient length, so as to carry the fluid away from the patient's bed. The finger and thumb are applied to the smaller piece of India-rubber tube, which is compressed firmly as the trocar is withdrawn, and this tube then fitted on to a longer piece of tube. The very unpleasant sound of a flowing stream of fluid is thus done away with; and where patients are not able to sit up to have the operation performed, it suits most admirably. It also prevents air from entering into the cavity.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 88.—*The general treatment of Scalp-wounds.*
By Mr. SKEY, Surgeon to St. Bartholomew's Hospital.

(*Lancet*, Jan. 26, 1856.)

These remarks occur in a paper entitled 'Reminiscences of Hospital Practice':

"My wards have been singularly prolific of large wounds of the scalp occasioned by violence. Whether such wounds have been treated by plaster or by suture, erysipelas has too commonly followed on about the third or fourth day, extending more or less generally over the entire head and face. In the course of last winter I delivered a clinical lecture on these cases, advocating their treatment by means of quinine in full doses. I am fully confirmed in my opinion of the efficacy of this mode of meeting the difficulty by the enlarged experience of the last six or nine months, which has brought under my notice at least a dozen cases, additional to those I had previously treated on the tonic principle. The opposite treatment of such cases of traumatic erysipelas, by means of salines and aperients, may be equally efficacious for anything I can assert to the contrary. If it be equally efficacious, it is somewhat curious that the treatment by quinine, steel, and wine does so little injury."

ART. 89.—*On Gunshot-wounds of the Skull.* By M. STROMEYER.

(*Dublin Medical Press*, Jan. 30, 1856; and *American Quarterly Journal of Medical Science*, April, 1856.)

A very interesting and practical statement has been recently made by Stromeyer, as to his experiences of gunshot-wounds of the skull. He says that during three years he attended hospitals in Vienna, London, and Paris, during the times of Astley Cooper, he did not meet a single case in which the operation of trephining the skull had been successfully resorted to; while many severe wounds of the skull came under his observation which recovered without any operation. This weighed on his mind, till the chances of war placed recently a set of eight cases of gunshot-fractures of the skull, with marked depression of bone, under his care, and all with brain symptoms—*the whole eight recovered by being let alone*; and notwithstanding the time-honoured legends of Cooper, Dease, and Brodie, he is now satisfied this is the best practice! The plan he lays most value on is neither expectant nor operative, but, singularly enough, antiphlogistic, more particularly bleeding, if necessary, to anticipate inflammation of the membranes. Sir George Ballingall gives sixteen cases of wounds of skull which recovered quite unexpectedly after Talavera, by what he called "cold applications;" but Stromeyer says they recovered because Sir George was then flying before the enemy, and had not time to use his trephine. Stromeyer thinks, from what he has seen, that the chief danger consists in allowing atmospheric air to act on the brain substance, as it at once sets up a sort of decomposition or sloughing process, much more formidable than the "signs of compression" dwelt on by Astley Cooper, and that by using the trephine we go, as it were, into the very jaws of death.

ART. 90.—*Do eyes of different foci puzzle each other?*
By Mr. CRITCHETT.

(*Medical Times and Gazette*, Dec. 1, 1855.)

A young women presented herself, November 23d, among Mr. Critchett's out-patients, at the Royal Ophthalmic Hospital, on whom the operation for cataract had been performed on the right eye, the left being at the time perfectly sound. The cataract had been caused by an accident in childhood. Mr. Critchett remarked—"It has been laid down as a law, that in cases in which one eye is perfect, no attempt should be made to remove a cataract from the other, because by so doing you will get eyes of different foci, and your patient will be annoyed with double vision. Experience does not, however, confirm this dogma of *à priori* reasoning. In the woman before us I operated for cataract simply because the white opaque capsule was a deformity, and I subsequently operated for strabismus on the same eye with the same intent. The result you see. There is at present no visible imperfection in the patient's eyes. She has not much sight with the right, it is true; nor, indeed, could it be expected, seeing that light had been shut out for twenty-two years. The eyes do not, however, trouble each other, and there is no double vision. I am quite certain that, practically, eyes of different foci become in time accommodated to each other, and that, instead of confusing, the less perfect eye assists the other. It may be that, under circumstances where double vision would be likely to occur, the patient learns to disregard one of the impressions. A patient who has been operated upon for cataract in one eye, the other being perfect, will have better sight than if he were simply monocular."

ART. 91.—*The treatment of Chronic Entropium by Collodion.*
By Mr. WILLIAM BATTEN.

(*Lancet*, Oct. 27, 1855.)

This mode of treatment was first employed by Mr. Batten in 1847, and again recently; and he now gives both the cases:

CASE 1.—Captain II—came under my care in October, 1847, suffering from various secondary symptoms of lues venerea. He had just left the military hospital at Plymouth, and had had, while there, severe inflammation of the eyes, which had resulted in entropium of both lower eyelids. For this especially he had come up to town to seek relief, but he had not been long under the care of Mr. Alexander, and without any beneficial result being obtained, when the original disease reappeared with such gravity that I advised that the treatment of the entropium should be suspended for a time, and then proceeded to treat the syphilitic disease.

After a long course of treatment, the symptoms being of Protean variety, the patient at length perfectly recovered, the entropium of course still remaining. Collodion had then been but recently introduced, and as my patient was exceedingly anxious to avoid an operation, which he had been told was not always successful, I was induced, reflecting on the properties of the new

agent, to give it a trial. The treatment was commenced in February, 1849. The mode of proceeding was this: by means of the thumb and finger the skin beneath the inverted tarsi was first corrugated transversely to the required extent; to this surface a sufficient layer of collodion was applied, and the fingers were then removed. The application was repeated three times a week at first, then twice, and lastly, once a week, for a period of four months, at the end of which time the patient was found to be perfectly cured, and has remained so ever since.

CASE 2.—Mrs. K.—, æt. 40. This case was one of chronic entropium of the worst description, as it had existed since the patient was twelve years old, being a sequela of rubeola, and occupied the tarsi of both eyes. No treatment had been of the slightest avail, except that of plucking out the cilia, and this she had been obliged to have regularly done for her about every nine days, to obviate the aggravated inflammation which would otherwise ensue from the contact of the cilia with the globe of the eye.

Sixteen years ago the usual operation had been performed upon both eyes at Guy's Hospital, by Dr. Edenborough and Mr. Morgan, but without affording her any relief, of which, indeed, she had long given up all hope. Having proposed to her a trial of my treatment, to which she willingly assented, the application of the collodion was commenced on the 1st of May last, a small strip of zinc with a rounded extremity being used for the purpose. The application was regularly repeated on alternate days, the corrugation below being ensured by the position of the finger, and that above chiefly by the open tarsus. The progress of the case from the commencement was highly satisfactory—marked, in fact, by one continued success. The eyelids, that had been so long inflamed and thickened, soon presented a better appearance; day by day the redness and swelling subsided; the inverted edges of the tarsi, with their growing cilia, by degrees emerged more and more outwards, until at length the full grown eyelashes resumed their natural position. This was about the middle of June, and as the use of the collodion seemed now no longer necessary, it was discontinued, and an astringent collyrium prescribed, to be applied night and morning to the still disordered conjunctivæ. On the 14th of July, when I again saw the patient, I found no trace of the entropium, and she expressed herself, with much delight, as being perfectly free from a malady which she had so long deemed to be hopeless. The appearance of the conjunctivæ had much improved, and she now only complained of “a weakness” and occasional “itching of the eyes.” On the 1st of August I again saw her. The eyelashes were well out, and the eyes were much “stronger;” but she still felt a good deal of the “itching,” although the conjunctivæ had nearly regained their natural appearance. I prescribed a collyrium of acetate of lead in rose water, for occasional use, and dismissed the patient as cured.

ART. 92.—*Case of periodical Opacity of the Cornea.* By M. V. ROSAS.

(*Wiener Medic. Wochenschrift*, No. 3, 1856.)

This case is very remarkable and very unintelligible, and the author has no satisfactory explanation to offer respecting it.

CASE.—The patient was a young man, æt. 25, and he had been affected in the manner about to be described for eighteen months, when he placed himself under M. Rosas' care. The sight had been tried almost uninterruptedly for two days and two nights when the affection first made its appearance.

When the patient wakes in the morning, and so long as he remains in the

recumbent position, his vision is perfectly natural, and nothing unusual can be detected in the appearance of either eye; but immediately on getting up, or a few minutes afterwards, the cornea of the right eye becomes cloudy, and the vision obscured. This state continues, as a rule, for about two hours, and then slowly disappears. If the head be spouted with cold water, the eye may return to its natural condition in half an hour; or this return may be retarded if the patient is excited or irritated in any way.

Examined during the time when the cornea was transparent, and the vision perfect, there was slight injection of the ocular and palpebral conjunctiva. The cornea, to all appearance, was healthy, and so were the fluids in the anterior chamber. The iris was detached from the ciliary border in several points, except in its posterior or pigmentary layer, and this detachment is most marked towards the superior part of the globe. The pupil is of natural size, but oval in shape, and its position is carried somewhat downwardly and inwardly. The organ is not at all insensitive to light. Examined by the ophthalmoscope, the retina and choroid are seen to be very much injected. The left eye was at all times in a perfectly healthy state.

The treatment consisted principally in cold affusions to the head. They had the effect of shortening the duration of the daily disorder, but they had no effect in preventing the recurrence of that disorder. Quinine, opium, morphia, and iodide of potassium, were also tried, but without benefit. Mercurial inunction in the neighbourhood of the eye, and the passage of an electrical current through the eye, were also tried, and equally without benefit.

ART. 93.—*Opacity of the Cornea treated by Operation.*

By (1) Mr. HAYNES WALTON, and (2) Mr. TAYLOR.

(*Medical Times and Gazette*, Aug. 18, 1855.)

The following cases are reported by Dr. M. Davis. They occurred in the Central London Ophthalmic Hospital, under the care of Mr. Walton and Mr. Taylor. A man, about 50 years of age, a patient of Dr. Taylor's, had a quantity of lime thrown into his eye four years ago. The eye was immediately washed out, and it was supposed that all the foreign matter had been removed, but a dense white opacity remained, covering nearly two thirds of the cornea, and completely concealing the pupil when in a state of medium contraction. Many ineffectual attempts had been made to remove or diminish the impediment to vision, by means of lotions and other local applications. On examining the eye minutely, it was seen that the opacity was smooth and uniformly covered by the epithelium; its upper edge, where it did not extend to the margin of the cornea, was shaded off gradually, and the surface generally appeared slightly more elevated than that of the clear part of the cornea. This elevation, taken in connection with the history of the case, led Dr. Taylor to suspect that the apparent cicatrix was formed by a portion of the lime which had not been removed at the time of the accident, and had become incorporated with the corneal tissues. He, therefore, with a fine iris-knife, carefully raised the epithelium in front of the pupil, and found that, by careful manipulation, the opacity could be chipped off in small flakes, and that in no part, towards the centre of the cornea, did it appear to have penetrated the anterior elastic lamina. After

clearing the pupil, the operation was suspended for the time, partly on account of the severe pain which it occasioned, and partly to avoid the risk of inflammation. On a subsequent occasion, the remainder was removed, with the exception of a few small spots towards the margin of the cornea, which appeared to be due to interstitial inflammatory deposit.

The slight haziness which remained after the operation was speedily dissipated, and the man was dismissed with almost perfect vision. Chemical examination showed the opaque matter to consist of carbonate of lime.

In another case, also under the care of Dr. Taylor, the opacity was removed, partly by operation, and partly by the process of absorption, excited by mechanical irritation.

The patient, a female, 24 years of age, had been subject, till within the last six years, to attacks of ulceration of the cornea. She now applied on account of a central milky opacity of the right cornea, shading the pupil and destroying useful vision in the eye. It had remained undiminished in size for six years, notwithstanding a great variety of local applications. Near the centre of the opacity were two small, dark brown spots, situated, apparently, in the substance of the cornea. These were, probably, the effects of a former long-continued use of nitrate of silver solution, while the cornea was ulcerated. The surface of the opacity was readily peeled off in small flakes, by a cautious use of the iris-knife, but the brown spots were found to be so deep seated, that Dr. Taylor did not consider it prudent to interfere with them, especially as they would not impede vision. The result of this little operation, which has since been repeated, has been the rapid diminution of the opacity, and corresponding improvement in vision; and as absorption is still going on steadily, there is every prospect that the sight of the eye will be completely restored.

It might be objected that the following case ought not, in strictness, to be placed under the heading of this report, but it is given, not only on account of its great peculiarity, but because it is somewhat allied to the above.

T. P—, æt. 38, a meteorological-instrument-maker, discovered, about four years ago, that the left eye was misty. The mistiness increased slowly, and attributing the failing of sight to the injurious effects of his trade, he disregarded professional advice, till the right eye had given evidence of the same kind of obscurity that had attacked its fellow, and now he applied to Mr. Walton. The eye first diseased, the left, is virtually blind, for nothing can be seen with it, as in the centre of the cornea there is a brown oval opacity, placed transversely, large enough to cover the pupil, and dense enough to intercept light. It is of a sepia colour, and shaded towards the extremities, not raised, and possessed of the same lustre as other parts of the surface of the cornea.

The right eye is effected in a similar manner, but in a less degree, and enough of the pupil is yet uncovered, that with a magnifying glass the coarser works of his trade can be executed. There have not been any subjective symptoms, and he himself is quite unaware that there are brown spots on his eyes.

Mr. Walton directed atropine to be used to the left eye, the effect of which was to dilate the pupil beyond the opacity, and thus to enable objects to be seen with that eye nearly as well as with the other.

The right eye was then treated in the same manner, and the vision was improved. The patient now expressed himself quite satisfied with the benefit received, and desired to cease attendance, but yielded to the request of Mr. Walton to attend another day, that he might ascertain how far the opacities were capable of being removed by operation. An attempt was made to scrape a portion of one away; but a clear surface beneath could not be obtained, as the disease had extended into the true texture of the cornea, and perhaps completely pervaded it.

Dr. Taylor, who had taken his microscope to the hospital to examine, in a fresh state, whatever might have been removed, found that the portion separated consisted of epithelium, some of which contained pigment granules.

ART. 94.—*On a case of Black Cataract.* By H. HAYNES WALTON, F.R.C.S., Surgeon to the Central Ophthalmic Hospital, Assistant-Surgeon to St. Mary's Hospital, and Lecturer on Anatomy.

This case is as follows :

CASE.—In October, 1855, Mr. Walton was sent for to see a gentleman, 75 years of age, who had lost the sight of both eyes for several years, and whose symptoms, objective and subjective, were as follows :

The cornea and sclerotica were healthy; the irides bright and in their natural planes. The pupils were of ordinary size, and acted but slightly, even when submitted to a bright light. The anterior chambers were large.

In the left eye there was an ordinary amber-coloured cataract of advanced size; not, however, very opaque, and which it is unnecessary for me further to describe. With this eye he could see the outline of his hand, or any large body.

In the right eye, the pupil was not apparently clouded by any opacity, but was quite black; and when the left eye was shut he could but just discern light from darkness.

The history adds value to the case.

In the commencement of the year 1849, he was much troubled with muscæ, and sight began to fail, the right eye being first affected. On the 15th of September, he felt a very decided impairment of vision, and on the 18th he could not read. He was now seen by a surgeon, who, after a few visits, called in Mr. Dalrymple, and the united opinion was to the effect that incipient cataract existed. At present he can see better with the left eye than when visited by Mr. Dalrymple.

“ It appeared to me,” writes Mr. Walton, “ that there was a greater defect of sight in the left eye (that with the visible cataract), than the degree of opacity of the lens would account for; and this, together with the inactive pupil, and the very decided declaration of the patient,

that he saw rather better at present than a year or two ago, induced me to suspect other disease in the eye besides cataract: but I shall not proceed further on this head.

“ The remarkable blackness of the right pupil quickly attracted my attention. There was absent the gray-brown tint that is always seen in the healthy eye of an old person, which is due to the coloration of the lens; a natural change that is frequently mistaken for disease, and is, I fear, not sufficiently recognised by the majority of those who write on, or teach ophthalmic medicine. With the most careful examination, I could not detect a trace of colour; the pupil was like that of a child, quite black.

“ That the crystalline lens was present, I had full proof in the position of the iris, and the similarity in this respect between the eyes.

“ That there was, therefore, before me some peculiar morbid condition, I was quite certain, for there was almost annihilation of sight in an eye to all appearance healthy, except that the pupil appeared darker than it should be, and I suspected that the lens or its capsule was black. My request to dilate the pupil, and examine the eye more in detail, was readily acceded to. A few days after, I applied a strong solution of atropine to both eyes, and obtained ample dilatation of both pupils. With the reflected light of the mirror of the ophthalmoscope, I saw in the right eye a cataract of a very deep brown colour, uniform over its entire surface, being without *striæ* or markings of any kind. Even this was not made out except the instrument was used carefully. Since then, I have shown the cataract to one of my colleagues, by the means of sunshine concentrated through a powerful lens, and which affords a better light than the ophthalmoscope.

“ From the opinion which Mr. Dalrymple is said to have given, one would naturally be inclined to think that there was at first nothing observable beyond what is seen in the early stage of cataract, but it would be unsafe to accept this, even as a probability. As Mr. Dalrymple’s opinion was sought by a surgeon whose position should be guarantee of his proficiency in the diagnosis of eye disease, it is likely that the case was not therefore a straightforward one.

“ I have met with very dark lenses, but nothing approaching to this, in the course of my professional career, nor do I know where any mention is made of a parallel condition of the lens where the eyeball was not disorganized, although I must confess to not having spent many hours in searching works that are not readily at hand.

“ Very dark amber lenses are sometimes alluded to as being black; and it may be well to quote the short notices that have been made on black cataract by those of our countrymen whose opportunities for observation or extent of research have not been surpassed. Mr. Lawrence says—‘ I have never had an opportunity of seeing a cataract of a darker colour than mahogany.’ Mackenzie—‘ I have seen a few cases of lenticular cataract, in which the opacity was so dark, that without close examination the disease might have passed without detection.’ Tyrell—‘ When the colour is very dark the disease is not easily distinguished whilst the pupil is in the natural state, unless by careful and close inspection. The extreme cases of this kind are, I

presume, those which have been denominated black cataract. I have not seen the lens after its extraction in any of these cases.' It would have added to the interest of this notice to produce the lens, which has undergone so remarkable a change, and were it certain that I am to be the operator, I should have delayed my communication till after extraction had been performed. Then also, would be ascertained the physiological state of the rest of the eye, and the admissibility of operation in such cases. However, this practical fact has been demonstrated, that the lens may become so dark, that a surgeon accustomed to treat diseases of the eye may not be able, without artificial means, to detect its presence. It is but probable enough, that similar cases have escaped detection, and been classed under the inexpressive term, amaurosis."

ART. 95.—A case bearing upon the operation for Extracting the Lens.
By M. COURSSEANT.

(*Archiv d'Ophthalmologie*, Sept. 1855.)

Everything which is calculated to throw light upon this operation ought to be collected with care, and for this reason we copy the following case:

CASE.—The operation for extracting the lens was performed on the right eye of an old man, aged 82, who had lost the other eye on a previous occasion after the operation by depression. Eight days passed away without swelling of the eyelids or any other symptom to attract the attention of the surgeon, and everything appeared to be progressing favorably, but on separating the lids at the end of this time everything was found to be wrong—the flap of the cornea ununited, blood in the anterior chamber, false membranes across the pupil, the anterior surface of the iris of a greenish colour, and so on. The eye, in short, was irreparably injured by inflammatory mischief, which mischief had progressed to this extent without giving any sign of its presence.

ART. 96.—A peculiar form of Scleritis.
By Dr. H. TAYLOR, Surgeon to the Liverpool Eye Infirmary.

(*Edinburgh Medical Journal*, May, 1856.)

"In the fifth fasciculus of his work on the 'Pathology of the Human Eye,' Mr. Dalrymple adverts to a form of inflammation originating primarily in the sclerotica, which he thinks has not been noticed in this country, or at least is not described in any of our systematic treatises on the diseases of the eye.

"The details which he gives of this affection are mainly derived from the review of an original paper by Dr. Sichel, of Paris, entitled, 'Upon a peculiar form of partial Inflammation of the Choroid, and of the Sub-conjunctival Cellular Tissue, and its Treatment.' My attention having been thus drawn to the subject, several cases in succession presented themselves, the symptoms of which closely resembled those described in Mr. Dalrymple's work. The disease appeared to be new to me, and peculiar in several respects. I have since met with other

examples of it in different stages of development, and am now induced to collect and arrange my observations regarding it, as a contribution, however imperfect, to the sum of our knowledge of eye diseases.

"The disease seems to consist, as I think Mr. Dalrymple correctly observes, in a primary circumscribed inflammation of the sclerotica, which tends to spread *outwardly* to the sub-conjunctival cellular tissue, and *inwardly* to the structure of the choroid and corpus ciliare. He thinks that it is attended with the deposition of tubercular matter in the tissues above named, and at a more advanced stage of the disease the cornea is apt to become the seat of opacities, varying in size and density.

"The symptoms usually presented by the disease in a moderate state of development, are the following:—Several enlarged and tortuous blood-vessels are observed advancing from the periphery of the eyeball towards the border of the cornea, usually the outer and superior portion, that which is directed towards the external canthus. At a short distance from the corneal margin, these vessels subdivide into a leash of smaller twigs, assuming a sort of circular or ovoid arrangement. Within the area thus marked off, one or more small conical-shaped bodies are observed, separate from each other, of reddish colour at the base, and white, or yellowish white, at the apex. They are firm in consistence, and evidently connected with the subjacent tissues, as they cannot be moved with the finger. The textures surrounding them are generally somewhat thickened and elevated, and the appearance presented is not unlike what we might suppose to arise from the deposition of some solid matter in the substance of the sclerotica and sub-conjunctival cellular tissue. The cornea is usually, although not always, the seat of some opacity. These opaque patches vary in form, extent, and density. They usually occupy the side of the cornea nearest to the thickened sclerotica, and are either separated from it by a clear strip of cornea, or, as more frequently happens, are united to it; presenting the appearance as if the opaque texture of the sclerotica had advanced upon the cornea. In some instances, where this union was only partially developed, minute red vessels could be distinguished, running apparently upon the internal surface of the cornea, and extending from the thickened portion of the sclerotica and corpus ciliare, towards the corneal opacity.

"*Pain* is usually slight in degree, sometimes it merely amounts to a sensation of tenderness on pressing the eyeball, or a feeling of stiffness on rolling it from side to side, or on exercising the eye much by artificial light.

"The movements of the *pupil* are usually sluggish, or almost wholly suspended, in the early stage of the disease; and at a more advanced period, it is apt to become irregular, and displaced from its central position towards the seat of the disease in the sclerotica.

"*Vision* is usually impaired in a greater or less degree; where opacities of any extent exist upon the cornea, it will, of course, be materially affected, but independently of this, it is generally imperfect, and liable to become more so when the eye is used for any length of time. There is an *increased flow of watery secretion* from the eyeball, which is promoted by anything which tends to augment the vascular

congestion, as walking against a current of air, or exerting the eye in looking at minute objects.

“With regard to the *persons* most liable to attacks of this disease, it seems to affect females more frequently than males, usually young adults, and those especially of a strumous diathesis. One eye is usually attacked rather than both, although it may appear alternately in each; and when one is the seat of the disease, it may affect both sides of the eyeball simultaneously, or, commencing on one side of the cornea, may gradually travel round its entire circumference, disappearing in one spot as it is developed in another.

“One of the most characteristic features of the disease is its chronic obstinacy. It is slowly and insidiously developed. Commencing with a slight feeling of uneasiness in one corner of the eyeball, a little redness, which at first comes and goes, according to circumstances, and slight lachrymation, it gradually steals on, till at length the patient is aroused to a consciousness that there is something materially wrong with his eye, from observing an opaque spot upon the cornea, and finding that he can no longer use the organ as formerly. So much is this the case, that it is not uncommon to find that the commencement of the disease dates several months previous to the time when the patient first applied for medical advice.

* * * * *

“The only other disease with which this affection is likely to be confounded, and it is a mistake not likely to be made by any one familiar with the pathology of the eye, is a *pustular inflammation* of the conjunctiva. Both of these ophthalmiae occur in young adults, and in both, we observe enlarged and tortuous blood-vessels, running towards, and subdividing round a common centre. In pustular ophthalmia, however, as its name implies, the point of attraction, is a pustule, or vesicle, seated in the conjunctiva, and moveable with this membrane; generally of a rounded figure, flattened upon the surface, and either filled with a semi-opaque fluid, or, at a more advanced stage, forming a shallow ulcer. These appearances are very unlike the firm, immovable cone-shaped body, seated upon a dense thickened base, and described as a characteristic of the disease under consideration. Pustular ophthalmia, in addition, is rarely accompanied with dense opacities upon the cornea, or with any indication of inflammatory action in the tissues of the sclerotica, iris, or choroid.”

ART. 97.—*On Rupture of the Inner Circle of the Iris.* By Mr. W. WHITE COOPER, Ophthalmic Surgeon to St. Mary's Hospital, &c.

(*Assoc. Med. Journal*, Oct. 19, 1855.)

Detachment of the iris from its ciliary border is a common result of external violence; but there is an injury occasionally caused by heavy blows upon the eye, which, with its consequences, are but slightly mentioned by the majority of ophthalmic writers. In many systematic works it is passed over altogether. This is rupture of the inner margin of the iris, an injury giving rise to wide and persistent dilatation of the pupil and serious disturbance of vision.

The following cases afford illustrations of this severe accident:

CASE 1.—In October, 1854, a man was admitted into St. Mary's Hospital, having received a very severe blow upon the right eye; the anterior chamber was full of blood, and no trace of the iris was visible. He was put to bed, and cold applications were ordered to be constantly applied to the injured eye; a brisk aperient was administered, and he was placed on low regimen.

I did not see him until the following day, by which time absorption of the effused blood had proceeded so vigorously, that the condition of the iris could be ascertained. It was then seen that this blood had issued from two fissures in the pupillary margin of the iris, which presented a jagged appearance. The pupil was widely dilated, perfectly motionless, and the sight was so far impaired that large objects only could be discerned.

The eye was, however, free from inflammation, and the patient made no complaint of pain. Under these circumstances, as there happened to be a great demand for beds, the man was permitted to leave the hospital, under the promise of attending as an out-patient. This, however, he did not think proper to do; and it was only by accident that I subsequently obtained an opportunity of examining the eye. Its condition at the expiration of two months was as follows:

The pupil was still widely dilated, and the irregularity of the inner margin of the iris was very distinctly seen. Neither contraction nor dilatation of the iris could be excited; it remained perfectly motionless under every amount of light. The eye had speedily recovered from the accident, with the exception of the sight, which remained very dull, all objects appearing hazy and indistinct. The sight was improved by looking through a pin-hole aperture in a card. As there were no indications of inflammatory action, he was recommended to supply himself with a pierced diaphragm to limit the quantity of light entering the eye, and to avoid everything which could over-excite the organ.

CASE 2.—An officer of Dragoons, quartered in Dublin, early in October, 1854, was playing at racquets, when he received a violent blow from the ball on the left eye. For a time he was stunned, but on regaining his senses he found that sight had left the injured eye. He placed himself under the care of an eminent physician, and Mr. Wilde was also consulted, so that no skill was wanting in the early treatment of the case.

This gentleman was seen by me on the 16th of the following November, about six weeks after the accident. The condition of the eye was as follows:—The pupil was so enormously dilated that the iris was reduced to a mere narrow strip, and was perfectly immovable under the strongest light. The lower portion of the margin presented two fissures, the edges of which being drawn asunder gave a saw-like appearance to that part. The sight was very imperfect, large objects only being discernible; it was not improved by a pierced diaphragm.

Stimulating embrocations and instillation of tincture of aconite and of opium were tried, but without the slightest benefit.

I saw this gentleman from time to time, and six weeks after his first visit decided improvement in the sight displayed itself: by looking through a pin-hole aperture he was able to discern objects which had before been very indistinct. After the lapse of four months, an alteration became visible in the condition of the iris; a certain power of contraction had been regained, for there was a marked diminution in the size of the pupil, and an equally marked increase in the breadth of the iris. Still it could not be seen to act under the influence of light, there being no discernible alteration when the eye was alternately shaded and exposed.

In July, when I last saw the patient, a still further improvement had taken place, and now a faint contraction and dilatation could be excited. The sight was materially amended, for not only could he discern distant objects by means of the pierced diaphragm, but he could read and write with tolerable facility. There was, however, this drawback, that under the most favorable circumstances the vision of the two eyes was not equal; and as my patient could not constantly wear the diaphragm, he unconsciously acquired the habit of closing the injured eye when looking at any object.

CASE 3.—On the 14th of June, 1855, I was consulted respecting the case of a youth, aged seventeen years, who had received the following injury eleven weeks previously: a round and heavy pebble was thrown by a lad at another boy who had incensed him, but the missile unfortunately lighted full on the right eye of my patient, who happened accidentally to come between the two at that unlucky moment. He fell from the force of the blow, and was at once rendered blind of that eye. He was placed under medical care, and active measures were resorted to; but the sight was only restored to a very imperfect extent. He was therefore brought to town.

The nature of the case was unmistakeable. The pupil presented the characteristic wide dilatation, and the lower margin had that serrated appearance which has already been described. In this case there were three fissures, so that the irregularities were very marked. The colour of the iris was unchanged, and the eye was perfectly free from inflammation. On being desired to close the sound eye, it was ascertained that he could see large objects, but even these indistinctly. On placing a pin-hole aperture before the eye, he could recognise features, and read tolerably large type.

As the injury was extensive, I formed an unfavorable opinion as to the result of this case, and advised that instead of his being apprenticed to a printer (as was intended), some agricultural occupation, or other pursuit requiring little exertion of the sight, should be selected. The use of a pierced diaphragm was recommended.

Remarks.—“It is well known that clean incisions of the iris are seldom followed by inflammation, and an eye in which the iris has been ruptured by injury may be fortunate enough to escape: but when we consider the great violence done to the whole organ, the possibility of deep-seated effusion, and of subsequent insidious inflammation, such cases require to be closely watched. The effused blood which always veils the iris will speedily disappear under the influence of cold and of simple treatment, but strict antiphlogistic measures are to be enforced from the commencement; and if there should arise indications of inflammation, as pain deep in the eye, or about the brow, tenderness of the globe, and zonular redness of the sclerotic, mercury should be administered until the gums are rendered tender.

“In the cases under consideration, the dilatation of the pupil is as great as that produced by a strong solution of atropine (which is always attended with considerable confusion of sight); but the impairment of vision is for a long time after the accident far greater than can be accounted for by any such dilatation. This is not surprising, when the character of the injury is considered. A blow sufficiently violent to cause rupture of the iris is likely to produce concussion of the retina, and separation of that membrane might even take place; again, chronic inflammation of the retina may be excited. If concussion merely, the effects will gradually pass away, and the improve-

ment of vision through a pin-hole aperture will be the index by which amendment can be traced. If inflammation has been excited, the injury to vision may be permanent.

“ So far as my experience has hitherto gone, injuries of the pupillary margin of the iris are little amenable to treatment. This will, no doubt, in a great degree depend upon the depth to which the fissure extends, and the consequent amount of laceration of the fibres which contract the pupil. If these are completely divided, the pupil will be widely expanded, and no application will cause its contraction ; if only partially divided, a certain amount of contraction may be excited. The question will be anxiously asked—Is the eye likely to recover ? for although after a time the organ becomes accustomed to the unnatural glare of light, the sight is under the most favorable circumstances seriously interfered with. A very cautious prognosis should be given. Time perhaps may improve the state of things ; but if the laceration be extensive, it must be very doubtful whether the powers of reparation will be sufficient to bring the eye into a useful condition. The edges of the fissures are widely separated, and cannot be approximated by any means with which I am acquainted. The fissure may be likened to a cleft palate ; but we are without the means which modern skill has supplied, of removing that defect by operation.

“ But do we possess any means of remedying the inconvenience arising from this permanent mydriasis ? Unquestionably ! by artificially imitating the contracted pupil, the eye may be rendered useful, unless damaged by inflammation. This is best done by means of a spectacle-frame, fitted for the affected eye with an opaque plate, either of thin steel, horn, or blackened tortoiseshell, and having in the centre, to correspond with the pupil, an aperture, either circular, or as a transverse slit. The form and exact dimensions must be a matter of experiment. Various forms and sizes should be tried, and that selected which affords the best vision.”

ART. 98.—Congenital absence of the Nose, and a new Rhinoplastic operation. By M. MAISSEONNEUVE.

(*Dublin Medical Press*, Dec. 19, 1855.)

Congenital absence of the nose is an exceedingly rare deformity, and it is questionable whether any case of the kind is on record.

CASE.—“ Eugénie Marotte, aged seven months, was born strong and well formed, except that her face was completely devoid of any nasal prominence, and that in place of this natural projection there existed only a plain surface pierced with two little round openings scarcely one millimetre (0.03937 inch) in diameter, and three centimetres (1.1811 inches) distant from each other. In addition to giving the child a most grotesque appearance, this deformity occasioned her much inconvenience in the act of respiration, and therefore in that of sucking. In these two points of view, consequently, it was important to remedy this faulty conformation, and for this purpose her parents came to Paris to consult me.

“ No similar instance having been known to science, the ordinary rhinoplastic

processes were, of course, inapplicable to the case. I therefore devised the operation I shall now describe.

"On the 18th of May, 1855, the child having been previously placed under the influence of chloroform, I carried inwards from each of the nasal orifices, a transverse incision one centimetre (0.393708 inch) in length. Two vertical incisions, commencing from the inner extremity of the preceding, were now directed towards the free edge of the lower (*sic*) lip, near which they were brought together so as to form a V. From these latter incisions resulted a narrow flap comprising the entire thickness of the lip: it was dissected and horizontally raised to form the inferior septum of the nose.

"There then resulted a true artificial hare-lip, the edges of which I united by means of the twisted suture. But to obtain this union, it was necessary that the space comprised between the nasal opening should be shortened by the entire width of the flap detached to form the septum, and that consequently a projecting fold should be formed at the expense of the intermediate skin. This fold, supported by the artificial sub-septum, constituted a perfectly regular nasal prominence.

"In order to understand completely the mechanism of the operation, it is sufficient to repeat it on a piece of paper, when it will be immediately seen how satisfactory the result is.

"The final issue was not, however, obtained without some trouble. The infant, irritated with pain, did not cease during the first twenty-four hours crying, so to speak, and struggling: the consequence was, a partial disunion of the points of the upper suture. This, however, was attended with the incidental advantage of suggesting to me an improvement in the operation for hare-lip.

"This improvement consists in the subcutaneous division of the orbicular muscle at each side of the wound, in order to prevent its contractions from tearing open the cicatrix.

"Thanks to this improvement, union took place without difficulty, notwithstanding the uneasiness of the little patient; and at the time of her departure from Paris, the cure was complete.

"The nose was of a very regular shape, and the openings of the nostrils being ample, admitted of easy respiration."

ART. 99.—*Complete removal of the Temporal Bone by Caries.*
By Dr. BIGGER.

(*Dublin Hospital Gazette*, Dec. 15, 1855.)

The two following cases are from the reports of the Dublin Pathological Society:

CASE 1.—James Dignum, *aet. 5*, was brought to me on the 2d January, 1849, suffering from profuse otorrhœa, of a most fetid character, from the left ear: the right ear was sound. The fetor was that characteristic of diseased bone, and was unlike the aromatic odour which proceeds from discharges from the internal ear when the membrana tympani has been injured, and which is so well known to those accustomed to treat aural diseases. The mother of the child stated that the disease commenced by an attack of pain in the ear about eighteen months previously, and that this discharge commenced very shortly after, when the excessive pain ceased; that it had been treated by various practitioners without effect, and that caustic and blisters had been the principal means employed.

On clearing away the matter with a small glass syringe with a crooked jet, something sharp was found protruding into the meatus. The first impression was, that some foreign body had been introduced into the ear, but on further examination it proved clearly to be bone, and the fetor excited the idea that it must be some bone entering into the structure of the internal ear. Seized with a forceps it felt slightly loose, but as it could not be dislodged without using force, and not knowing what bone it was, it was left for fourteen days longer, during which period warm water injections, and poultices of bread and water, with powdered charcoal, were used.

On the 16th of January, 1849, the bone yielded to very slight traction, and was drawn out easily and without hemorrhage. It was about an inch in length; one end terminated in two prominences, not unlike the open beak of a bird; this was evidently the remains of the carotid canal, the internal wall of which had been completely absorbed, so as to permit the exit of the bone without injury to the artery; close to this was the internal meatus; the meatus externus was situated about one third from the end of the bone on one side, and both it and the other cavities were full of cerumen. The surface of the entire bone was abraded and rough, as if the hard crust had been filed off, and the entire bone was more porous than in the normal state, but yet very hard. No bad effects resulted from the removal, and the poultices were continued till the 14th of February, when suppuration had nearly ceased, and the ear only exuded a little clear serum. On the 1st of March the child was perfectly well, and the ear externally quite normal: the internal meatus was narrowed, and gradually decreased until it ended in a fine point.

The pulsation of the carotids was equal on both sides, nor was there anything remarkable to be noticed in the jugulars. There was no paralysis in any of the muscles to which the portio dura of the seventh pair of nerves is distributed. It is hardly necessary to say that there was permanent deafness.

A month subsequent, this child had a sharp attack of scarlatina, succeeded by cellular dropsy in the face and limbs, from which it recovered under the use of bark and wine.

On the 16th May the child was last examined. He was then in perfect health; the ear was quite free from pain, and were it not for a slight serous discharge, perfectly well. The funnel-shaped cavity has become somewhat smaller. No cerumen.

CASE 2.—Thomas Dowd, *aet. 5*, a strong, fat, yet strumous-looking child, the son of a mechanic, whose means were sufficient for every comfort, was brought to me on the 4th June, 1855, suffering from profuse otorrhœa of both ears. His cheeks bore marks of lunar caustic having been plentifully used, as they were blackened and blistered where it had overflowed with the fetid discharge.

The parents stated that the child had always been healthy and strong, with an inordinate appetite, and that the only thing which had ever ailed him had been occasional swelling of the glands of the neck, and some stiffness in the motions of the head, neither of which symptoms were constant. The running from the ears was first noticed in the summer of 1853, after a railroad journey, with some exposure, which caused inflammation and great pain in the ears, particularly the left, on the subsidence of which matter began to flow from it, and shortly afterwards from the other. This matter had not at first the horribly fetid smell which it lately exhaled. An English general practitioner treated the child, for the first six months, principally by syringing and blistering; he was then brought to Dublin and treated by an aurist, with constant applications of lunar caustic to the ears, and cod-liver oil internally; but not getting any better, regular advice was discontinued until the 2d of June, 1855,

when a gush of blood from the left ear frightened the family. The child was immediately carried to the nearest apothecary's shop, who poured fluid caustic into the ear, and inserted a plug, recommending them to bring the child to me in the morning. On the 4th June the child was brought to me. I carefully removed the plug, which, although it had checked the hemorrhage, was not sufficient to restrain the discharge; there was no appearance of blood about the ear, but the smell from the copious discharge was almost insupportable. From this peculiar smell I suspected diseased bone, and on clearing out the ear, I felt denuded bone a very short distance from the meatus *externus*. The child's uneasiness and suffering prevented me from ascertaining whether it were loose or not, nor was I very anxious to interfere with it, through apprehension of again bringing on hemorrhage. I ordered digitalis to be administered in small doses, placed a small plug of matico leaves in the orifice, and directed that linseed-meal poultices and charcoal powder, in equal parts, should be applied.

June 12th.—Suppuration profuse. No further hemorrhage. Fetor decreased by the charcoal, but still indicative of caries. Having gained the confidence of the child by gentle treatment, I was enabled to feel that the bone was loose. I was afraid to remove it, suspecting that it might be a similar case to that of Dignum, and being impressed with anxiety about its deep vascular relations. The same palliative treatment was pursued until the 24th of June, when a point of bone showed itself near the external meatus, and was drawn out gently without any hemorrhage.

The right ear, meanwhile, was pursuing the same course which had been run by its fellow; suppurating very freely, but without the occurrence of hemorrhage; and the mildest treatment being employed until the bone protruded, it was easily removed from its purulent bath by the aid of a forceps and gentle traction, on the 19th August, 1855, without either pain or hemorrhage.

The course of this case has been favorable from the period of the removal of the bones; all suppuration shortly ceased; a little glycerine was dropped in from time to time, and occasionally the openings were washed out with a solution of Bewley's iron alum, gr. x ad. $\frac{3}{4}$ j.

On the 14th September, I closely examined the child. The ears were normal externally; a slight watery discharge, free from smell, is emitted; the apertures in both ears end half an inch from the external opening, by contracting into a fine funnel a little flattened from side to side.

September 25th.—No apparent ailment but deafness. Dr. Bigger then exhibited the bones which he had removed, and contrasted them with the healthy bone taken from a child of the same age. He said, no doubt could be entertained, notwithstanding the absorptive erosion of their surfaces, that they were petrous bones, and the same peculiarity was observable in both, that the portion of bone internal to the carotid canal had been absorbed, so as to prevent injury to the vessel when the diseased bone was removed. A large quantity of hard cerumen filled all the cavities. The great anatomical difficulty to be solved in those cases is the absence of paralysis in any of the muscles supplied by the *portio dura* of the seventh pair of nerves, as the internal auditory foramen was perfect in all the morbid specimens, and the parts through which the Fallopian canal wound its course were hard and uninjured; so much so, that it would have been impossible for the nerve, if following its ordinary course, to have escaped from the bone, as it was evident the carotid artery had done.

The wonderful provisions of nature in thus separating one of the hardest bones of the body from its deep and important connections with large sinuses, a great artery, most important nerves, and a very close proximity to the

brain itself, are illustrated in these cases; as is also the value of an expectant practice in treating parts so much beyond our reach. A little meddling on the part of the surgeon might have obstructed the reparative processes which were safely proceeding to a happy result, and which he never could have so effectually forwarded, as by leaving the matter to be effected by nature's own handiwork.

ART. 100.—*Dislocation of the Lower Jaw reduced by a new method.*
By Mr. W. COLLES.

(*Dublin Hospital Gazette*, July 15, 1855.)

The case was that of a young lady, æt. 25, whose lower jaw became completely dislocated during a prolonged yawn; and an unsuccessful attempt at reduction had been made before the patient applied to Mr. Colles. Mr. Colles proceeds—

“Before attempting reduction, I wished to ascertain the position in which I would have most command of the force to be used. Standing before her, I passed both thumbs into the mouth, but felt I would not have a position the most favorable for applying all my force, if necessary.

“I then stood behind her, and it at once struck me this was the position which afforded most advantages.

“Placing her head against my chest, I passed each thumb as far back on the corresponding side of the jaw as possible. By making a rotatory motion from the wrist, I found the bone to yield; by now adding a motion of drawing the hand in towards the chest, the left side first, then the right, slipped into their positions, and the patient closed the mouth, the rows of teeth falling into their relative positions, and she now could speak plainly.

“I think there are many advantages to be derived from attempting reduction in this posture, viz.: the surgeon standing behind the patient, the head applied to his breast, and the thumbs turned inwards on the corresponding angles of the jaw, the fingers under the bone in front.

“In the first place, the head is much more secure than in the original process, where it is applied against a wall, because in the latter the surgeon may press down the bone, and the patient generally will draw the head in the same direction by moving the body forward in the chair.

“By standing behind the patient, while depressing and pushing back the thumbs, he is pressing forwards with the chest, and thus fixes the head more steadily, and assists his manipulations; and even if the patient do move on the chair, a slight motion of his body will suffice to counteract this movement, and retain the head steadily fixed.

“Another advantage is, that he can use much more force, because when standing in front he can only use the muscles that depress the hands; whereas standing behind the patient he has the power of those muscles, and is assisted by the powerful class of muscles that rotate the thumbs inwardly; and, besides, in the former case his pressure is away from his body, whereas in the new position the pressure is more

directly downwards and towards himself. The only disadvantage in this proceeding, if it can be considered one, is, that the mouth is stretched more than in the original plan."

ART. 101.—*On Congenital Deficiency of the Palate, and the means to be used for its relief.* By Mr. GEORGE POLLOCK, Assistant-Surgeon to St. George's Hospital.

(*Lancet*, Feb. 2, 1856.)

In this paper (which was read before the Royal Medical and Chirurgical Society on the 22d of January, 1856), the author states that his object is not so much the relation of a new operation for the closure of the imperfect hard palate, (although various novel operative procedures are explained in the course of it,) as to draw attention to the fact that few exceptions exist in which the fissures of the hard palate cannot be effectually and permanently relieved by operation—a fact, which for various reasons cited, appeared to have been much neglected by English surgeons. Mr. Pollock's paper was admirably illustrated by a great many models and drawings of the parts concerned, both previous to operation and during the different stages of the treatment of the cases related. The author divided the different conditions of deformity affecting the hard palate into six groups. 1. The first and most extensive fissure extending through the soft and hard palate—and then dividing in front, passes through the alveolar ridge, making a gap on each side of the incisor teeth. 2. The second extends through the soft and hard palate, and through the alveolar ridge also, by a single gap only, on one side of the incisor teeth. The author had always found congenital fissure of the upper lip associated with fissure, either double or single, of the alveolar ridge; and that when the latter is double, the former was so also. 3. The third passes through the soft and hard palate, and terminates in front immediately behind the alveolar ridge. In this variety there is often great irregularity of the upper incisors. This group of cases is also accompanied by congenital fissure of the lip. 4. The fourth extends through the soft and about three fourths of the hard palate. 5. The fifth extends through the soft palate and the palate bones only. 6. The last exists as an opening in the hard palate, and the soft may be entire. Upon this classification Mr. Pollock laid down the principle, that the more extensive the deformity, the more extensive the surface of the soft tissues, and the greater, therefore, the facility of bringing the edges of the fissure together, and the greater the hope of ultimate success. He gave various admeasurements of the parts, in different degrees of deformity, all tending to prove that the lesser the fissure in the bony palate, the more natural will be the curve of the arch, a condition which is found to add to rather than diminish the difficulties of the operation; for although in such cases the soft parts may be readily separated from the bone, yet they will rarely be sufficiently broad or free to meet in the median line without traction, or a resort to some other operative measures; whereas, in the greater degrees of deformity, the sides of the fissure run upwards, in a direction almost per-

pendicular, and thus afford a larger surface from which to obtain soft parts. Several cases were next related from the author's own practice, and from that of the late Mr. Avery, to whom Mr. Pollock paid a well-merited tribute of respect and regard. In the relation of the cases, and the sequel of the paper, the following points were insisted upon:—The line of the first incision of the edges of the cleft ran along the line of union between the mucous membrane of the mouth and that of the nose. It is made with a knife, consisting of a flat piece of steel, bent at a right angle, about a quarter of an inch from the extremity, the cutting edge of which is about an eighth of an inch broad in the centre, and rounded off narrower to each end; a much broader knife, of the same character, is used to detach the soft parts from the bone, an operation requiring great care, to avoid lacerating and bruising them. Knives bent at various angles are required for various parts of the mouth, and one was recommended, the blade of which should be acted on by a screw; they should be strong and firm, and as broad as can conveniently be used. The edges, when detached, should never be brought together by sutures, unless they fall and meet together without traction. The author advocated the introduction of a suture through each of the curtains of the newly detached palate, as preferable to the use of forceps, when manipulating them. The ends of the sutures are brought out of the mouth, and tied in a knot, so that there may be no fear of their being withdrawn, and thus the flaps can be raised or moved about without fear of bruising or lacerating the edges, one of the most frequent causes of failure of union. When the flaps or curtains do not meet of their own weight in the mesial line, a curved knife is introduced through the palate, near the last molar tooth on each side, and pushed upwards and inwards between the bone and soft parts, until its point is seen in the fissure, when the blade is moved slightly backwards and forwards. Lateral incisions may also be required. The author strongly insists on the propriety of not attempting too much at once, and for these reasons: the separation of a large surface greatly interferes with its nutrition; both anterior and posterior palatine arteries would be divided at the same time, and sloughing rendered thereby probable; the length of the operation, and consequent fatigue and pain to the patient. The author prefers to operate upon the hard palate first, because the anterior palatine artery being usually divided in that procedure, the flaps obtain ample nourishment from the posterior palatine vessels; and again, firm union of the new-formed palate is usually followed by a sensible diminution in the breadth of the fissure of the soft palate. Again, it is the more tedious and painful operation of the two. In operating on the soft palate, the author advocates a novel mode of dividing the levator palati muscle. The flap being put on the stretch by the traction of the suture above mentioned, a sharp-pointed, double-edged knife is run through the side of the palate, on the inner side of the hamilar process, which can be readily felt through the soft parts. The point being kept in a direction upwards and inwards is soon seen to have passed through the soft palate, and projecting into the gap of the fissure above the line of the levator. The handle is next raised, and a sweeping cut

made along the posterior surface of the soft palate. The knife, being withdrawn, leaves but a small opening in the mucous membrane, and the levator is found to be freely divided. If this proceeding do not sufficiently liberate the curtain, the incision may be carried down to the free margin of the soft palate. Sutures should never exert the slightest traction or pressure. Their removal, of course, will depend on the circumstances of the case; but usually the first may be removed on the third or fourth day. After the operation, fluid or pulpy food should be given liberally; it is very important to insist on this, as the patient will otherwise be deterred by the pain of swallowing. Whiteness and coating of the tongue after operation are not to be considered indications for the administration of physic; nor are various conditions of the tongue and fauces previous to operation, and which are due to the absence of the hard palate, to be regarded as indications of defective general health; the latter, however, should always be perfect at the time of operation. The operator upon the hard palate is not to be discouraged by failure in gaining union at first, for parts which were thin and scanty are often rendered thicker and more vascular by separation from their attachments. When attempts are made to close an aperture in the palate, caused either by malformation or disease, after paring the edges and separating the soft tissues from their attachments, lateral incisions are frequently necessary; and great general support may be given to the sutures used below the wound, by passing a broad suture through the lateral incisions, and thus including both flaps within its embrace. And this is not its only effect; it prevents the healing of the lateral incisions until the opening has had time to unite. Its use is preferable to that of sponge or lint introduced into the wounds. As chloroform is not applicable to these operations, a degree of self-command and endurance is required, which cannot be expected in an individual under the age of seventeen or eighteen, at which period, also, the development of the parts affected may be presumed to be nearly completed. Mr. Pollock suggests, in conclusion, that although in all cases in which operative procedure has been attended with success a great improvement has invariably been noticed in the speech and articulation, yet much remains to be done by education. Efforts must be made to change the acquired habit of pronunciation for a new method of articulation, which may be best and easiest effected by the patient repeating words after a teacher, or reading aloud, subject to correction. Difficulties in this respect will, however, often be found to depend upon the fissure in the alveolar ridge, or irregularities of the teeth.

ART. 102.—*Case of Pharyngotomy.*
By Mr. Cock, Surgeon to Guy's Hospital.

(*Medical Times and Gazette*, Feb. 9 and 23, 1856.)

Cases of this kind are of such unfrequent occurrence that any new case is of considerable interest.

CASE.—Mr. T. G., æt. 22, a highly respectable tradesman at Dartford, was

brought to Mr. Cock's residence on Thursday, January 17th, by Mr. Martin, surgeon, of Dartford.

It appeared that for some time he had been wearing a false central incisor tooth fixed to a gold plate, which extended some distance on either side. The foreign body, which was subsequently removed from the pharynx, may be thus described:—The plate formed the segment of a circle corresponding with the hard palate behind the incisor *cuspidati* and *bicuspides* teeth. The one extremity terminated in a slender clasp, with two points as sharp as needles, and encircling the *bicuspidis* tooth; the other extremity formed a single sharp point. The anterior edge of the plate presented three acute angular projections, which corresponded with the inter-dental spaces; and from this margin also the false tooth formed a prominent projection. The extreme length of the plate—in other words the *sector* of the circle—was an inch and five eighths; while a line drawn from the edge of the tooth to the sector measured exactly one inch.

This plate had been swallowed by the patient during sleep, about two o'clock, a.m.; and Mr. Martin, finding that it had stuck in the gullet, and could neither be seen nor felt from the mouth, brought him up to Mr. Cock for further advice.

There could be no doubt that the foreign body had lodged in the cervical portion of the swallow, but its exact situation was not very clearly indicated. The pain and irritation together with tenderness on pressure, all of which were very considerable, were referred to the top of the oesophagus, just below the larynx; but no projection indicating the precise locality of the plate could be detected from the exterior. He was able to swallow fluids, although in very small quantities and with great difficulty. His breathing was not impeded, but he had an irritating laryngeal cough.

Under these circumstances, Mr. Cock judged it most expedient to delay any active measures for extraction, until the patient had recovered from the immediate effects of the accident and the fatigue and excitement of his journey. He was, therefore, advised to go into the hospital, in order that every available means might be used; and he willingly agreed to this arrangement. In the course of the afternoon he was visited by Mr. Cock, who passed a bougie into the pharynx, and found a total obstruction about the lower edge of the larynx, in fact just at the junction of the pharynx and oesophagus. A pair of strongly curved forceps detected the plate, but it could neither be grasped nor moved from its position. As his respiration was unimpeded, and the pain quite bearable when kept at rest, it was determined to postpone further measures until the next day. A full dose of opium was given, as much fluid nourishment as he could get down was ordered, and he was furnished with ice to suck at his leisure.

On Friday, January 18th, Mr. Cock saw him with Mr. Hilton. He was calm and tranquil, and had not suffered acutely except when pressure was made from the exterior, or when he attempted to swallow. It appeared very doubtful whether any fluid which he took into his mouth found its way into the oesophagus. Attempts were made with several instruments to grasp or dislodge the plate, but they all proved abortive, and it was found impossible to pass any instrument between the foreign body and the walls of the gullet, so as to get it below the obstruction. Mr. Cock, at length, succeeded in introducing a flexible catheter, No. 5, which appears to have found its way between the horns of the clasp which formed one end of the plate. As a means of conveying fluid into the stomach had now been obtained, it was suggested that the action of vomiting might possibly alter the position of the plate, and render it more accessible from the mouth. A pint of milk was accord-

ingly conveyed into his stomach, and then half a drachm of sulphate of zinc and a scruple of powdered ipecacuanha administered. Strange to say, not even a sense of nausea was produced, and the emetics were retained without producing the slightest constitutional effects. A mode of administering nourishment had, however, been obtained, and we could, therefore, afford to wait and take the chance of any favorable contingency. On Saturday, January 19th, Mr. Cock made another attempt. Since the previous day he had twice fed the patient with milk, wine, and beef-tea; but the catheter was passed with great difficulty, and there was only one particular spot on the left side where it could be made to penetrate into the oesophagus. He was unable to swallow a drop of fluid by natural efforts, but derived great comfort from sucking ice. Mr. Cock attempted to pass a looped wire round the plate, and also manipulated with a flexible tube, from the extremity of which a pair of forceps could be projected, but no success could be obtained, and further proceedings were laid aside for the present. On Sunday, January 20th, no attempts were made, but the patient was fed three times through the catheter; the introduction of the instrument becoming more and more difficult each time. On Monday, January 21st, Mr. Cock again met his colleagues. It was now imperative that some decisive step to remove the foreign body should be taken, as the flexible catheter could no longer be passed, and the patient was beginning to feel seriously the effects of want of nourishment and rest. The position of the plate was pretty clearly ascertained. It was impacted either at the commencement of the oesophagus or else just above (where the oesophagus and the pharynx join). It was determined to cut down and open the gullet. Mr. Hilton assisted Mr. Cock in the operation.

The patient was placed on his back, with his head and shoulders slightly elevated. Chloroform was given, and he was soon quietly under its influence. An incision of about four inches in length, was carried from the upper edge of the thyroid cartilage, nearly as far down as the sterno-clavicular joint; on the left side of which the platysma and cervical fascia were divided, bringing into view the carotid sheath and the omo-hyoideus muscle, which was thick and fleshy where it crossed the wound. This latter was divided, together with some filaments of the descendens lingualis nerve, and two or three small arteries, which were immediately tied to prevent as much as possible infiltration of blood into the cellular tissue. A little further dissection laid bare distinctly the common carotid artery, the inner connections of which were easily separated with the handle of the knife and the finger. It was considered to be an important object to separate completely the carotid artery from its internal attachments; and this having been accomplished, the vessel, together with the sterno-mastoid muscle was drawn outwards and retained by retractors, and thus rescued from injury or molestation, while the further steps of the operation were carried on, the object of which was to reach the upper portion of the oesophagus.

The thyroid body was now exposed by dividing a few of the external fibres of the sterno-hyoïd and sterno-thyroid muscles, and the dissection was continued along the outer surface of the gland backwards towards the spine. The tissues were separated partly by the handle of the knife, partly by the blade. An artery, probably a branch of the superior thyroideal, was divided where it crossed the upper part of the wound, bled freely, and was secured with some difficulty. A larger vessel, probably the inferior thyroideal, was seen running across lower down, but escaped without injury. The larynx and trachea were gently drawn over towards the right side, so as to widen the large wound which gaped along the side of the neck.

The œsophagus was reached by following round the surface of the thyroid body, which completely covered and concealed the trachea.

About two inches of the gullet could now be traced with the finger, but no projection indicating the presence of the foreign body could be felt. It therefore seemed tolerably certain that the plate had not descended into the œsophagus, and must be lodged in the lower part of the pharynx. With some difficulty, by tilting the larynx a little forwards and over to the left, the finger was passed behind it, that is, between the pharynx and the vertebræ, and the body was now obscurely felt exactly behind the cricoid cartilage, protected as it were by the inferior course of the thyroid. The point of the knife was now brought to bear on what appeared to be the most prominent part, which proved to be the single tooth, and the grating sensation of the blade indicated that the pharynx was opened, and the foreign body reached.

The white tooth, in fact, became visible at the bottom of the wound; and, being grasped with a pair of forceps, the opening into the pharynx was dilated upwards and downwards with a blunt-pointed bistoury. After a little manipulation, one end of the plate was disentangled from its attachments and brought out of the wound, but the entire body was not extricated until a further slight division of the walls of the pharynx had been made. This, however, was soon accomplished with the assistance of Mr. Hilton, who cut along the edge of the gold plate, while Mr. Cock gently withdrew it with one hand, and protected the parts with the fingers of the other. The patient was carried to bed, and cold water applied to the wound, no means being used to bring the edges together. On recovering from the effects of the chloroform, he seemed to have suffered but little from the operation, expressed himself as comfortable and free from pain, and returned eagerly to his former occupation of sucking ice. An enema of beef-tea and wine was thrown up, as he had had no nourishment since the previous day. In the evening, he complained of great exhaustion, or rather sense of starvation, and Mr. Cock gave him nourishment through the catheter, and a full dose of opium.

January 22d.—Was free from all untoward symptoms, and only complaining of an empty stomach. He was fed with milk and beef-tea three times. Sucking ice was a great luxury, although he believed that none of it passed into the œsophagus, and, as far as could be ascertained, no water found its way out by the wound. On the third day, January 24th, Mr. Cock introduced the common œsophagus feeding-tube, which passed readily, without pain or obstruction. He has since been regularly fed by his dresser, Mr. Dyer, at first, three times, but afterwards, at his own request, four times in the twenty-four hours. He is always ready, indeed eager, for his meals, and receives them with great enjoyment. His diet consisted of beef-tea, brandy, and egg, arrow-root, with milk or wine. Notwithstanding this nourishment, of which he swallowed about four pints in the twenty-four hours, he was evidently losing flesh and strength. Accordingly, Mr. Cock ordered as much pounded meat to be mixed with the beef-tea as could be made to pass through the tube, and directed an ounce to an ounce and a half of cod-liver oil to be given at each meal. He takes an opiate every night, but the quantity is undergoing gradual diminution.

February 5th.—The increase of nutriment, or the oil, or both, have produced a decided improvement in his appearance, and he expresses himself as feeling stronger and better. His spirits have all along been good and hopeful.

The wound has looked healthy from the first, and has now contracted to half its original size. Since the operation nothing has been swallowed by natural deglutition, and he is very unwilling to make the attempt, as it

causes considerable pain, and a sensation as if the wound was being rent open. He does not appear to swallow his saliva.

Had the foreign body been lodged in the upper part of the œsophagus, its extraction would probably have been more easily accomplished; but the protection which was afforded by the cricoid cartilage in front, and the posterior edge and inferior course of the thyroid, which, as it were, overlaped it at the side, rendered the access to it difficult and tedious, and materially complicated the operation.

— In the 'Medical Times and Gazette' of February 23d, we learn that about a month was occupied in the closure of the wound, and that all the nourishment was administered by means of the stomach-pump during the first three weeks.

ART. 103.—*Cases of Laryngotomy.*

By Mr. HENRY THOMPSON, Surgeon to the St. Marylebone Infirmary.

(*Lancet*, Oct. 27, 1855.)

The following cases are worth recording, inasmuch as they bear on the question of employing laryngotomy in place of tracheotomy in circumstances of impending death by asphyxia from laryngeal occlusion; a question which, during the last few years, has been receiving a practical solution in the successful substitution, in many instances, of the simple and easy operation for that which is not unfrequently both dangerous and difficult of performance.

CASE 1.—I was called, at four o'clock in the morning of the 27th of September, by Mr. Joseph, of Manchester Street, to see a patient, to whom he had been summoned two hours previously. I found a man, of about forty years of age, lying on his back in bed, with extended neck and livid countenance, gasping for breath. An attack of acute laryngitis had supervened on an ordinary cold in the course of the previous day, had been vigorously treated by applications of ammonia, &c., but was now threatening to prove fatal by asphyxia. There was no time for delay, and with Mr. Joseph's concurrence and assistance, I proceeded at once to make an opening into the larynx. Having made a short incision through the skin in a vertical direction, over the crico-thyroid membrane, I found it necessary to tie a small artery, which spouted freely on dividing the tissues beneath. The membrane itself was then incised to an extent sufficient to admit a full-sized double trachea-tube, which was inserted and adjusted without the slightest difficulty. The relief was instantaneous. A few very forcible inspirations and expirations followed, the lividity vanished, and the patient was soon in a sound and comfortable sleep. A piece of muslin was folded three or four times and laid on the orifice of the tube, to modify the temperature of the inspired air.

I saw him once a day on the three following days, during which he was recovering rapidly. The tube did not cause the slightest pain or irritation. Meantime, Mr. Joseph's assistant removed the inner tube twice a day, in order to detach the adhering viscid mucus, and returned it each time well oiled within and without. I have often had occasion to observe before that this application tends to retard the accumulation considerably.

On October 1st, the fourth day after the operation, finding that the patient could speak well when the tube was closed, and that there was scarcely any

tenderness about the larynx, I removed the apparatus, approximated the edges of the small wound, and applied water dressing.

On the 8th of October the wound had entirely closed, and on the 10th the patient walked out, and, with the exception of debility, had recovered from his attack.

CASE 2.—On June 2d, 1854, I accidentally met in the Strand a well-known physician, who had just been summoned to a case of urgent asphyxia, and who requested me immediately to accompany him. We found a little boy, three years of age, livid and almost insensible, struggling violently for breath. There was evidently no time to be lost. Not being provided with the necessary appliances, I ran into the shop of Weiss, the instrument-maker, fortunately only a few doors off, and instantly obtained them. Opening first the crico-thyroid membrane, I found it necessary subsequently to divide the cricoid cartilage and upper ring of the trachea, in order to introduce the tube. Before, however, this could be accomplished, he had almost, if not quite, ceased to breathe, a significantly long interval having been noted during the last two inspirations; and it was not until we had performed artificial respiration, in part by applying the mouth to the tube, but chiefly by performing repeated acts of pressure upon the abdomen and ribs, that the natural action of the lungs was established. We had the satisfaction, however, of leaving him, in the course of half an hour, completely relieved, and enjoying comfortable sleep.

June 3d.—We saw the patient together. He was breathing comfortably, taking nourishment freely, and in all respects improving. A good deal of mucus was passing through the tube.

I subsequently learned that, contrary to express orders, the tube was removed for a short time, by the attendants of the child, on the 5th inst., and that in this condition he suddenly died of asphyxia, in less than ten minutes after taking, with considerable relish, a basin of beef-tea. No post-mortem was permitted.

These cases are practically valuable, inasmuch as they present additional evidence in favour of an opinion, the accuracy of which is becoming more and more apparent—namely, that a tube may be introduced into the interior of the larynx, and be retained there for some time, without exciting irritation of the organ, even in the presence of acute laryngitis; and that it is therefore unnecessary to resort to the severer method of tracheotomy, on the assumed ground that it is calculated to occasion less disturbance to an already diseased larynx.

(B) CONCERNING THE CHEST, ABDOMEN, AND PELVIS.

ART. 104.—*Case of Subclavian Aneurism in which a new mode of treatment was adopted.* By Mr. FERGUSSON, Surgeon to King's College Hospital.

(*Lancet*, Sept. 1, 1855.)

Mr. Fergusson presented to his class on the 4th of August, 1855, a most interesting case—one of a series, thinks the surgical reporter to the 'Lancet'—where a very remarkable cure has been effected in well-marked subclavian aneurism, by a new and specific method of

manipulation which he has adopted. We may state here that we saw the case about a year and a half ago also, when the man was previously under treatment. Some short period before that time Mr. Fergusson conceived the plan of stopping the circulation in the aneurism by pressing the sides of the aneurismal sac together, with their intervening fibrinous deposit; and in this case, from the phenomena attending the manipulation, there appeared to us very little doubt that the object held in view by Mr. Fergusson had been attained—viz.: the clots of fibrin in layers in the aneurismal sac had been displaced, and, spreading from the subclavian into the axillary and brachial, a new sort of Brasdor's operation, at the distal side of the subclavian, had been the result. In other words, we believe that Mr. Fergusson, without ligature, had attained all the advantages of the last-named operative proceeding; for not only had a blocking up of the axillary and brachial been followed by a partial stoppage of the current through the enlarged aneurism of the subclavian, but even with very marked, but not so satisfactory, results as regarded the pulse in the radial at the wrist, which became completely stopped for a time, with symptoms of paralysis in the arm, all resulting from the displacement of the fibrinous clots.

The aneurism in the present case was situated in the subclavian, in the usual site of subclavian aneurism—namely, between the scaleni muscles, and to us seemed almost to invite some modification of the Dublin surgeons' plan by compression on the first rib. The plan by compression, we need hardly observe, is in general applied to the artery above the aneurism, between the latter and the heart. Crampton, however, in 1816, showed that the obliteration of an artery can be effected without rupture or ligature of its coats, as generally conceived, simply by this blocking-up process. The early volumes of the 'Lancet' contain cases also cured by Brasdor's operation; it seems, however, more applicable to carotid than subclavian aneurism.

Mr. Fergusson related to his class on the 11th, at some length, the details of a previous case of subclavian aneurism, of the same character as the present, in which his ideas on this subject were first matured. In both cases the method of cure by deligation at the tracheal side of the scaleni, as well as Brasdor's operation at the distal end of the aneurism, were inadmissible; yet it was gratifying to find the present plan, by firm pressure of the thumb on the aneurism, so as to displace some of the fibrinous clots, followed up by local pressure, succeeded in obtaining most striking and in many respects curious but satisfactory results. Intimately associated as the subclavian is at the right side with the vertebrals and carotid, the method of displacing fibrinous coagula is not without danger. A patient under such circumstances will fall down, perhaps, in a fit from want of circulation in one side of the "circle of Willis," formed by these arteries; yet, as the cause is so apparent, the danger may not be very alarming. Some instances of cure of aneurism of even the innominata have been given by American surgeons, in which recourse was had to ligature, on Brasdor's plan, of the subclavian; the result here ought to be equally dangerous. Hodgson gives us cases also in which a plug of effused lymph had nearly obliterated the subclavian; while Gendrin has imitated all the

phenomena of arteritis and blocking up of aneurisms by injecting irritant substances into a portion of artery contained between two ligatures. In Mr. Fergusson's new mode of operation, we believe an entirely novel idea is acted on—namely, the displacement of the lamellated fibrin of the aneurism, on which no operation has been performed, and so directing the clots of fibrin that they shall block up the distal end of the artery so diseased. As Mr. Fergusson has expressed an intention of bringing the entire subject under the notice of the Medical and Chirurgical Society, we purposely abstain from giving the cases in detail. The method of treating aneurism by compression, originating with Desault and Hunter, and recently revived with such excellent results by the Dublin surgeons, will gain an immense accession of interest, if it should prove that the fibrinous deposit of the sac of the aneurism may be thus as it were utilized in bringing about the results hitherto gained in a different mode by Brasdor's operation at the distal end of the aneurism. Considerable caution will be at first necessary, as observed by Mr. Fergusson, in selecting cases which are fitted for the present method, as premature or ill-judged experiments in the shape of direct pressure or manipulation on the sac of aneurism not requiring it, one of which we mentioned recently as brought into Guy's, where direct and prolonged pressure had been made in the popliteal space before the patient came into hospital would be certain to be followed by severe inflammation of the sac and other dangerous results. The spontaneous cure of aneurism is not unknown in practice; it may take place, it must not be forgotten, by a coagulation of the contents or increase of the quantity of lamellated blood in the sac, the cavity becoming filled, and the circulation conveyed to the parts beyond the disease by the collateral vessels; or, again, in some rare cases the aneurismal tumour may be doubled up and press upon the portion of artery leading directly to the aneurism; or in a third fashion, as in a remarkable case given by Mr. Liston, where the patient had well-marked subclavian aneurism, which subsided and disappeared—an aneurism of the innominata pressing on and obliterating the aneurism of the subclavian!

Whatever may prove to be the correct pathological explanation of the phenomena in Mr. Fergusson's present cases, we deem it our duty to state here briefly that the cure seems complete and unequivocal without any ligature of vessels, nor is there any reason to believe the case was one of spontaneous cure of subclavian aneurism, as in the case given by Mr. Liston. It is now two years since the man came first under observation; he has been, on and off, under treatment all that time in King's College Hospital and at home in the country; but happening to be in town at the time, Mr. Fergusson took advantage of the opportunity to exhibit the case to his class.

ART. 105.—*On Abdominal Emphysema.*
By Mr. ERICHSEN, Surgeon to University College Hospital.

(*Lancet*, Dec. 15, 1855.)

“Emphysema of the subcutaneous cellular tissue of the trunk is looked upon as one of the most certain signs of thoracic injury, and

its occurrence from other causes than wounds of the lungs or pleura is scarcely, if at all, recognised by writers on surgery. My object in this communication is to show that it may arise without any injury of the chest, by the escape of flatus from a ruptured or wounded intestine into the subperitoneal cellular tissue, and thence into the more superficial cellular planes of the trunk; and that it may thus become important, or possibly the sole evidence of serious abdominal injury. So far as I have been able to ascertain, the remarks on this subject in surgical writings are of a very incidental character, and not commensurate with the importance of this lesion as a diagnostic sign of intestinal injury. Haller alludes to it as occurring in a case of abdominal injury; and Morgagni states that in a case of stab of the abdomen, perforating the colon, 'a beginning emphysema was brought on.'

"The only practitioner who, to my knowledge, has treated of 'abdominal emphysema' as a special symptom, is Dr. O'Ferrall, of St. Vincent's Hospital, Dublin. That gentleman, in March, 1854, published, in the 'Dublin Hospital Gazette,' a very valuable practical lecture on 'Abdominal Emphysema, consequent upon Diseases of the Intestines, especially Malignant Disease of the Rectum, Hernia, and Ileo-cæcal Abscess'; but in that communication he makes no mention of this condition as a consequence of abdominal injuries.

"The two following cases will illustrate the importance of this symptom in the diagnosis of intestinal injury:

"CASE 1.—A man, about 30 years of age, was admitted into the hospital, under my care, in February, 1854, having been squeezed between the buffers of two railway-carriages about half an hour previously. He had been struck on the pit of the stomach and the small of the back. On examination, no bruise of skin, or fracture of ribs or spine, or positive sign of injury, could be detected; but the patient was collapsed, and complained of pain in the abdomen. There was some retching, but no vomiting. From the nature and the seat of the injury, and the severity and the continuance of the collapse, there could be little doubt that he had sustained rupture of some one or other of the abdominal organs; but no positive signs existed to indicate which one in particular had suffered. He was, accordingly, kept quiet in bed, opiates administered, and the urine, which was untinged by blood, drawn off. On the following day, some emphysematous crackling was noticed in the subcutaneous cellular tissue of the right flank; and this gradually crept upwards and forwards, so as to occupy a considerable extent of the side of the abdomen and lower and back part of the chest, as high as the scapula. These parts presented the ordinary characters of emphysema, being somewhat tumefied, doughy, and crackling on pressure. There was no discolouration of the integuments. The state of depression continued, notwithstanding the administration of stimulants, and the patient died about forty hours after the accident.

"On examination after death, it was found that the anterior margin and the under surface of the liver were lacerated to some extent, and that a considerable quantity of blood had been extravasated into the peritoneal cavity. The intestines at first presented no appearance of being injured; but, on closer inspection, it was found that the posterior part of the duodenum, at about the juncture of the descending and transverse portion, was ruptured to the extent of an inch behind the peritoneum; the laceration in no way implicated that part of the duodenum which was invested by serous membrane. No extravasation had taken place into the peritoneal cavity; but a considerable

effusion of thin, bilious-looking intestinal matter had been extravasated into the subperitoneal cellular tissue in the loin, for some distance around the ruptured gut, and the flatus from this had found its way through the cellular planes until it had reached the subcutaneous cellular tissue, when it had given rise to the emphysema which had been noticed during life. There was no injury to any of the organs within, or to the parietes of the chest; no fracture of any ribs.

"The practical interest of this case lies in the fact of the emphysema being the only sign of intestinal injury. There was no wound penetrating the abdominal cavity, nor injury to the lungs or ribs; hence the air which became extravasated into and widely diffused through the cellular tissue could have come from no other source than the ruptured gut. The peculiar and very unusual situation of this injury in the only portion of the small intestine that is uncovered by peritoneum prevented the occurrence of the more ordinary signs of intestinal injury, viz., feculent or tympanitic extravasation into the cavity of the peritoneum.

"In such a case as this the suspicion would naturally arise on the occurrence of emphysema, that the chest had been injured; but the first appearance of the effused air in the abdominal rather than the thoracic wall, the absence of pneumothorax and of all stethoscopic indications of thoracic lesion, would enable the surgeon to make a satisfactory diagnosis as to the seat of the injury that furnished the air.

"CASE 2.—A young man was admitted under my care last December with a pistol-bullet wound of the abdomen. The ball had entered close to the navel, and had traversed the body, being extracted from under the skin to the left of and close to the lumbar spine. From the course the bullet had taken, there could be little doubt that the intestines had been traversed, but there was no positive sign of the occurrence of such an injury by the escape of faeces or flatus through the external aperture. A few hours after admission, however, emphysema, began to show itself in the left flank. This gradually extended forwards and upwards, so as to occupy a very considerable extent of surface on the left side of the body. The emphysematous swelling presented the usual doughy crepitation so characteristic of this morbid condition, differing in no way from what is observed about the chest or neck in cases in which the cellular tissue of these regions is inflated from a wound of some part of the respiratory organs. The patient died about twenty-four hours after admission. On examining the body, it was found that the small intestine had been traversed, and the upper part of the rectum wounded by the bullet. It was from the wound in the rectum that the flatus had escaped through the meso-rectum into the cellular tissue of the loin, and thence into that of the trunk generally.

"In this case the occurrence of emphysema, though interesting as a pathological phenomenon, was less important as a diagnostic sign than in the former instance, the direction of the bullet leaving little doubt that the bowel had been wounded; though of this, as in the former instance, the occurrence of emphysema was the only positive evidence.

"There are but two morbid conditions with which 'abdominal emphysema' can be confounded—viz., thoracic emphysema, and the putrefactive emphysema from gangrene of the cellular tissue.

"From thoracic emphysema it may be distinguished by the absence of all sign of injury about the chest, by its spreading more slowly, and probably by its being seated, or at all events commencing, in a lower part of the trunk—rather the abdominal than the thoracic wall.

"From the putrefactive emphysema of the cellular tissue, consequent on low cellulitis or gangrene, the distinction would necessarily be easy, in the absence of all precursory inflammation, and of all concomitant signs of suppurative slough.

"The mechanism of 'abdominal emphysema' appears to be simple. When the wound in the intestine is so situated, as in both the instances related, that it communicates directly with the subperitoneal cellular tissue, the flatus, by the compression to which all the abdominal contents are subjected during expiration, will be forced into the contiguous cellular tissue, and a fresh portion being pumped in at each respiratory movement, the inflation will gradually extend through the different planes of cellular tissue until the more subcutaneous layers are reached.

"There is another way in which this 'abdominal emphysema' might occur—viz., by the escape of flatus into the peritoneal cavity from the wounded intestine, and thence into the subcutaneous cellular tissue at the edges of an oblique wound through the abdominal wall. That would appear to have been the way in which it occurred in the case related by Morgagni, as quoted by Mr. Travers ('Injuries of the Intestines,' pp. 26 and 27):—'The transverse and oblique muscles were perforated with a wound that would admit two fingers, and between them the air had entered, so that a beginning emphysema was brought on. This air had got out of the colon, which was wounded, into the cavity of the belly, and had distended it; nor had air alone come forth, but excrement also.'

"When the emphysema happens in this way from a previously existing tympany, the mechanism of its occurrence would appear to resemble that of a thoracic emphysema, resulting from a previously formed pneumothorax."

ART. 106.—*Case of Diaphragmatic Hernia.*
By Dr. C. W. CHANCELLOR.

(*American Quarterly Journal of Med. Science*, Oct., 1855.)

The site of the hernia in this case is in some degree peculiar.

CASE.—On Monday, September 3d, 1855, I was called to see J. P.—, æt. 6; delicate frame; light complexion; strumous habit. His mother informed me that the boy had been unwell, to her knowledge, from the Friday morning previous, complaining of pain in the left shoulder and side, with occasional vomiting, and had had no evacuation from the bowels since Wednesday, August 29th, for which calomel and oil had been given, and retained without producing any effect. He had taken no food, except a piece of bread, which was immediately ejected. Water could be retained only in small quantities. His appearance at this time was quite natural, with but little expression of suffering; he still complained of pain in the left side, which was slightly increased by pressure under the margin of the ribs of that side; there was no pain elicited on pressure elsewhere. His abdomen was very much distended and tympanitic throughout its whole extent; skin hot and dry; tongue furred and coated with a light brown deposit; pulse

accelerated, but otherwise normal; respiration slightly hurried but easy, no cough, and but little thirst.

"On questioning the mother of the boy, she stated, 'that on the day previous to his complaining, he had in a scuffle with a play-fellow been thrown across a plank, on the abdomen;' but there was no external evidence of injury. I ordered an active purge, to be followed by a purgative enemata.

"Tuesday, September 4th, the enemata had produced quite a large evacuation, but there was no improvement in the general condition, showing that the discharge had come only from that part of the intestinal canal below the point of obstruction. Thinking the case to be one of invagination, I proceeded to treat it *secundum artem*. The countenance daily grew more anxious and dejected, and all the symptoms more aggravated, until death furnished relief. His mental faculties remained unimpaired throughout the disease, and intelligent—I might say precocious—answers were given to questions, until the hour of death, notwithstanding a large amount of opiates had been used to palliate suffering and quiet the stomach, which had become very irritable; but at no time was there stercoraceous vomiting. Nothing was ejected but the articles swallowed, mixed with the mucus of the stomach. About twelve hours before death, which occurred on the 8th of September, nine days from the period of attack, the pulse became slower and softer, and the surface covered with a profuse perspiration: the extremities retained a pleasant temperature.

"Having examined all of importance connected with the onset and progress of the case, we will now proceed to the pathological condition furnished by a *post-mortem* examination, which was conducted in the presence of several distinguished professional friends, fifteen hours after death.

"The only marked abnormal appearances externally, were a slight general emaciation and great discoloration of the integuments of the abdomen. On opening the cavity of the abdomen, the bowels, viewed *in situ*, as may be inferred from the foregoing, were very much distended. The stomach and liver were in a healthy condition, the latter natural in size and colour, and the gall-bladder well filled with bile. The blood-vessels of the intestines were considerably injected. Continuing our examination, by tracing up the colon from the ileo-cæcal pouch, we discovered that the large intestine was perforated just at the upper part of the angle which it makes in forming the transverse colon. The perforation was about seven eighths of an inch in length, sufficiently large to permit the escape of the contents of the intestine, which had been poured out into the peritoneal cavity: about two and a half inches to the left of this perforation a knuckle of the transverse colon, and also of the jejunum near its junction with the duodenum, had passed through an artificial opening in the middle of the left leaflet of the diaphragm, and were tightly constricted. The contents of the bowels, finding an obstacle to its progress in every direction, had pushed the diaphragm high up, considerably diminishing the thoracic cavity. The diaphragm was then cut loose from its attachments with the ensiform cartilage and ribs, and the viscera of the thorax exposed. Two or three inches of the colon and jejunum were found to be included within the cavity of the chest in a gangrenous state, and adherent to the inferior lobe of the left lung, which latter was also attached firmly to the upper surface of the diaphragm."

ART. 107.—*A case of Wound of the Diaphragm.* By Dr. P. FRAZER.

(Lancet, Jan. 19, 1856.)

Commenting upon this case, Dr. Frazer asks, Was this one of the cases in which the bold and original suggestion of Mr. Guthrie, to cut down and relieve the incarcerated organ, should have been tried? Will the excessive thirst and vomiting help us in future cases to a diagnosis? Or will the site of the aperture or apertures assist us? And to these queries, Mr. Guthrie (who communicates the case to the 'Lancet') answers:—"I am not aware that more could have been done with propriety, unless perhaps the posterior wound had been more enlarged, so as to allow of no retention of fluid; but this would not have rendered any important aid in saving the life of the patient, the occurrence of the hernia not being suspected previous to the man's death. The operation I have recommended, of making an incision through the wall of the abdomen, for the purpose of dividing the structure of the diaphragm, and of withdrawing the parts protruded into the thorax, can, I fear, only be attempted with a hope of success in what may be termed secondary cases—where the sufferer has recovered, with a hole in his diaphragm, through which, after a time, portions of the viscera of the abdomen ascend into the thorax, and become incarcerated in the first instance, and subsequently strangulated, from distension of the hollow viscera."

CASE.—M. O'G—, æt. 18, private in the 30th regiment, was struck by a Minié bullet, while in the act of retiring into the trenches, after the failure of the attack on the Redan on the 8th of September. The bullet entered midway between the angle of the ninth rib and the spine, and made its exit one inch outwards from the left nipple. On his arrival at the hospital a few hours only after the infliction of the wound, he laboured under considerable dyspnoea, had haemoptysis, and some emphysema was present around the posterior wound, through which air and frothy fluid freely passed during respiration. The pulse was 70, feeble and irregular; skin cool and clammy. Ordered warm tea and a little wine.

September 9th.—The dyspnoea was greatly relieved.

10th.—The pulse rose to 80, still feeble, and very irregular; number of inspirations, 28.

12th.—Pulse 100, very feeble; emphysema continues; no haemoptysis; no morbid murmurs heard in the lungs. Low diet strictly enjoined.

13th and 14th.—The patient is very easy and composed.

15th.—Early this morning he was seized with severe vomiting whenever anything was swallowed. I found him pulseless; number of respirations 40 per minute; countenance haggard and anxious; enormous aqua-sanguineous discharge was going on from the posterior wound. The thirst was now excessive, and his plaintive moanings at not having as much cold water as he desired were painful to hear. He drank a large quantity a few minutes before death, and expired at 10 p.m.

Post-mortem examination.—On opening the thorax, and pursuing the investigation from the wound of entrance, the ninth left rib was found fractured; the bullet must then have grazed and injured more or less of the muscular portion of the diaphragm, then passed through the base of the

lower lobe of the left lung, making its exit at and fracturing the fourth left rib. The lung was pressed upwards, (but not backwards, as in cases of effusion,) and occupied only half the cavity ; recent adhesions existed between the two lobes, also between the pleura pulmonalis and costalis. Half a pint of bloody fluid lay in the posterior part of the cavity. Around the track of the wound in the substance of the lung there was considerable congestion, which gradually shaded off into healthy structure. No attempt at reparation in the wounded parts. An unusual appearance was seen at the base of the cavity, and, resting upon the diaphragm, a shining elastic swelling occupying the whole of the lower half of the cavity. This was found to consist of the stomach, duodenum, and a portion of omentum. The finger could not be passed from the thorax into the abdomen, and, on farther exploration, recent adhesions were observed between the diaphragm and extruded parts. There must have been considerable strangulation, although the opening was nearly two inches in diameter, and of a circular form. The mucous membrane of the stomach was intensely red and swollen, peeling off easily. The stomach was perfectly empty.

ART. 108.—*On the employment of Nitric Acid in Piles and Prolapsus Ani.* By Mr. HENRY SMITH.

(*Medical Times and Gazette*, Dec. 8, 1855.)

“ In the summer of last year,” says Mr. Smith, “ I published in the ‘ Medical Times and Gazette,’ some cases, which proved the great utility of the nitric acid, as a local application, in some forms of haemorrhoids, which demand a surgical operation for their cure. Since that time, I have had repeated opportunities of testing the value of this mode of treatment, and have found that the nitric acid is not only a speedy and efficacious destroyer of haemorrhoidal excrescences, but that it will cure a condition of the lower bowel, which, existing in an exaggerated degree, generally demands, even for its relief, some severe operation.

“ I refer to prolapsus ani, and not to those more simple forms which frequently coexist with internal piles, and which more or less depend upon them ; but to the state which exists, when the tissues are so much relaxed, that a considerable portion of the lower bowel is in a continual state of prolapsus, occasioning to the patient the greatest misery, from which he has not the courage to get himself freed, under the dread of a surgical operation with the knife or the ligature.”

CASE.—“ A. B—, æt. 70, was sent to me on August 25th. The aspect of this patient was very careworn, and he looked much older than he really was.

“ On examination, I found that there was a swelling outside the anus, consisting externally of thickened integument, and within of the mucous membrane of the rectum, highly vascular, thickened, and relaxed, the whole forming a very large and prominent tumour.

“ The patient stated that he had suffered from prolapsus of the gut for twenty years, and that latterly the protrusion had increased so much that he could not return it, consequently there was constant prolapse, and he was always in pain ; but what caused him most misery, and drove him to obtain further surgical advice was, the circumstance of his not having any control whatever over his rectum. The faeces escaped quite involuntarily.

"I had not before tried the nitric acid in a case of anything like the same severity, but my previous experience of its effect in slighter cases determined me to use it in this instance. Accordingly, having carefully cleansed and dried the protruded part by means of lint (a very necessary preliminary), I applied the strong nitric acid, by means of a piece of wood, freely over the whole protruded mucous membrane. Oil was abundantly smeared over the parts, which were then returned within the anus.

"I am bound to admit that the patient suffered great pain for a time, but it was mainly whilst I was returning the parts,—a work of difficulty. He was ordered to keep quite quiet.

"August 30th.—The bowels have been moved since the application, and the patient states that he had at the time more control over his rectum; and on examining him I found that the protrusion was already much lessened in magnitude; that the mucous membrane, which had been touched by the acid, was corrugated and hardened; and that the parts were altogether in a more healthy condition. I therefore applied the acid a second time, using the same precautions and means as before.

"A few days after this a friend of mine saw the patient during my absence from town. He told this gentleman that he was 'better than he had been for twenty years.' The acid was applied a third time.

"October 9th.—This patient came to see me. His countenance indicated a mind at ease and renovated health. He informed me that he was well, and on examination I could not discover a trace of the protrusion.

"The above is the worst case for which I have tried the nitric acid as yet, and I must confess that the result was far beyond my expectations, although I hoped for an ultimate amelioration of the distressing symptoms, from my experience of the action of the acid in less severe cases; but more especially by the result of a case to which I had been previously called by Mr. Thomas Bennett, of Oxford Street. Here a gentleman, between 20 and 30, had had for some time such severe prolapsus, that he was compelled to wear a pessary; at times he could not return the immense protrusion; and on an occasion of this kind Mr. Bennett requested my assistance. In this instance I smeared the whole of the protruded mucous membrane well over with solid nitrate of silver, and then by degrees, and with great difficulty, returned the immense mass within the anus. This gentleman shortly afterwards left London; but I was informed that he was enabled after this operation to dispense with his pessary.

"Doubtless, there are many cases of prolapsus of the rectum which nitric acid will not remove; and I would not affirm that the treatment by this remedy is superior to the use of the scissors or of the ligature; but some patients will not submit to either of the latter operations, who will readily allow the surgeon to apply a remedy, which, if cautiously used, is not productive of danger, nor of more than temporary pain, and which will, in numerous instances of haemorrhoids, and in some cases even of severe prolapsus of the rectum, effect an excellent cure."

ART. 109.—*On the treatment of Fistula in Ano without division of the sphincter.* By Mr. HIRD.

(*Lancet*, Oct. 27, 1855.)

After alluding to the painful and hazardous operations practised by surgeons for the cure of fistula until a more correct view was taken of the disease by Percevall Pott, under whose influence and example the barbarous treatment at that time had recourse to was renounced by the profession in this country, the author gives a minute description of the anatomical structure of the lower part of the rectum, and of the tissues which fill up the ischio-rectal fossæ, and observes that many obscure collections of matter can only be diagnosed by those who are familiar with the complicated fascial and muscular boundaries of the space surrounding the extremity of the gut. Mr. Hird then describes the varieties of spontaneous abscess which affect this region, and gives the result of several cases of fistula which had not entered the rectum or laid bare its walls, in which no operation was performed, and strongly opposes the assertion made by Mr. Syme and many other surgeons who have written on this disease, "that all remedial measures, except the knife, are ineffectual." As a preventive treatment against the formation of fistula, he urges the necessity of freely laying open all abscesses in the neighbourhood of the rectum before the walls of the bowel are laid bare. The incision should be directed from before backwards, and not transversely, so that the discharge may have no mechanical difficulties to overcome in its exit. When the abscess does not close by the ordinary process of granulation, Mr. Hird advises the use of mild injections of nitrate of silver (four grains to the ounce), and the application of well-adjusted pressure on the part. In two cases of eight and ten years' standing in which this treatment was not successful, he effected a cure by means of a platinum wire heated by electricity, and connected with the poles of a galvanic battery, similar to the one used by Mr. Marshall for applying electro cautery to fistulous openings in the cheek, and advises the use of this agent before resorting to division of the septum. In cases of complete fistula, the author has no confidence in any treatment except that of laying the cavity of the abscess and of the rectum into one by dividing the sphincters. This, he says, might be accomplished either by means of the knife, the ligature, or electric heat. Although the knife is the favorite instrument of the majority of surgeons, he prefers the use of the ligature in all cases where the haemorrhoidal veins are unusually large, or when the patient has a dread of the knife. He considers also that this method of operating possesses advantages over the knife in many special cases, and, if judiciously applied, and only tightened by means of the fistula-tourniquet to a degree of tension sufficient to accomplish the division of the septum, is not so painful as the operation with the knife, less so in the after-treatment, and frequently accomplishes a cure in a shorter space of time. Hemorrhage and the dread of a cutting operation are avoided by this plan. Mr. Hird's experience does not confirm the opinion of Sir B. Brodie, that all fistulæ have an internal orifice lead-

ing into the rectum; neither do his observations verify the opinion of many writers, that fistulæ are most frequently found in phthisical patients; but, on the contrary, these observations are in harmony with the views of Andral and Louis, both of whom demonstrate, by statistical inquiries, that these affections, occurring simultaneously in the same individual, are merely the result of accident, and that they do not stand to each other in the relation of cause and effect.

This paper was read before the Medical Society of London.

ART. 110.—*Statistics of 258 cases of Intestinal Obstruction.*

By Dr. S. F. HAVEN, Jun.

(*American Quarterly Journal of Medical Science*, Oct., 1855.)

The concluding passages of the paper, and a table which comprehends nearly all the items of several other tables, excepting the symptoms, will serve to show the results of Dr. Haven's long and careful inquiry. The table is as follows—

Total.	24	46	59	46	24
Unknown.	...	...	...	...	...
Both.	...	...	...	...	...
Large intestine.	23	44	60	44	46
Small intestine.	1	2	11	23	59
Total died.	16	40	46	23	2
Total recovered.	7	1	13	46	4
Died.	1	1	3	4	4
Recovered.	1	1	3	4	4
Gastrotomy.	...	...	...	...	...
Died.	1	4	5	4	39
Recovered.	1	1	1	1	18
Artificial anus.	6	4	5	3	10
Not operated on.	7	10	17	12	10
Operated on.	16	35	56	46	39
Average age.	51	43	15	18	18
Unknown.	9	28	10	15	10
Females.	15	18	34	2	15
Males.	24	46	59	4	24
Whole number.	15	46	133	10	119
Cancerous stricture	9	2	1	1	9
Non-cancerous stricture	8	2	2	1	8
Intussusception	10	10	17	17	10
Intussusception with polypi	18	16	35	30	18
Total of intermural	11	11	22	17	11
Bands and adhesions	1	1	6	1	1
Twists or displacements	1	1	1	1	1
Diverticula	1	1	1	1	1
External tumours or abscesses	1	1	1	1	1
Mesocolic and mesenteric hernia	1	1	1	1	1
Omental hernia	1	1	1	1	1
Obturator hernia	2	2	4	4	2
Diaphragmatic hernia	4	4	6	5	4
Total of extramural	35	35	39	39	39
Intramural	4	4	6	6	6
Unknown	6	6	4	4	3
Total	92	115	147	147	258

- In one out of these cases an incision was made below Poupart's ligament.

Dr. Haven then proceeds to make the following remarks:—

“ We have now gone through with the different species of obstruction found in our 258 cases. It only remains to consider them in the aggregate, and draw such inferences as may prominently suggest themselves.

“ We find that intramural obstructions exceed the other two in number by 18, and the extramural alone by 33; while the obstructions from foreign bodies are to the other two in the proportion of 1 to $15\frac{1}{2}$. Intussusception occurs more frequently than any other species; non-cancerous obstructions, and those from external bands and adhesions, stand nearly on a par; while all the other varieties are considerably below in point of number, cancerous obstructions holding the next rank. Omental hernia is found the least often of all.

“ The proportion of males to females proves to be about as 1 to $1\frac{2}{3}$.

“ Thirty-nine out of the whole number were operated upon. Twenty-four had an artificial anus formed in the side, two thirds of whom recovered. This would seem to be an argument in favour of operating when the diagnosis is tolerably clear; but there are so many things to cause hesitation and delay, that the right moment is rarely taken advantage of. On the other hand, gastrotomy was performed 14 times, and but 5 recovered. The first of these five occurred in a case of cancer of the sigmoid flexure. Three inches of the diseased intestine were cut away, the arteries of the mesocolon tied, the extremities of the divided bowel united with Glover's suture, and the abdomen sewed up. Ten days after a copious evacuation took place, and in eighteen days the patient was pronounced well. Twelve months after, however, he died from an extension of the disease. In the next three cases, the abdomen was opened and an intussusception withdrawn.* In the last case, the seat and kind of obstruction were not mentioned. Our statistics, then, do not offer much inducement for the operation of gastrotomy. It is surprising, however, what inroads upon the abdominal cavity may sometimes be made without causing death, as is shown in the first case above mentioned, and in many experiments upon animals.†

“ Notwithstanding the unsuccessful results of gastrotomy, the following question has occurred to us as deserving some attention. If a diagnosis could be made out in cases of simple twist, or of simple strangulation of knuckles, of intestine through loops, rings, openings, or under bands, how far should we be justified in performing abdominal section? Evidently, in cases of twists, the answer would depend much upon the relative frequency of peritonitis; and in those of knuckles it would depend upon the frequency of peritonitis, adhesions, thickening, disorganization, &c., preventing a withdrawal of the

* These must be regarded as remarkable and exceptional cases, as it is well known that in intussusception the adhesions are generally too strong to permit withdrawal.

† “ Brunner sewed a wound one inch and a half long, in the small intestine of a dog, with the glover's suture. The dog soon recovered; but it is difficult to say what he would not have recovered from, as, subsequently, milk was injected into his thorax, his femoral artery was tied, his spleen was extirpated, his pancreas cut away, and, finally, he was compelled to swallow a scruple of opium—and all without serious consequences, as he made his escape three months after the last attempt upon his life.”—*Brit. and For. Med. Rev.*, Jan. 1847.

incarcerated portion. In view of this, we have drawn up the following table of 34 cases:—

	Knuckles.	Twists.	Total.
No. of cases where there was no peritonitis and where it seems probable that the intestine might have been withdrawn or untwisted	7	6	13
No. of cases rather more doubtful, but where no mention was made of peritonitis or other obstructing cause	10	0	10
No. of cases where peritonitis was mentioned	4	3	7
No. of cases where the intestine could not be withdrawn	4	0	4
Total	25	9	34

“ Considering that a large portion, if not all, of the 10 more doubtful cases, in the second line of figures, *may* have properly belonged in the first line, and that peritonitis in all the 7 cases *may* not have existed two or three days before death, there remain but 4 cases out of the 34 where we are certain that no operation could have been performed. In one instance, peritonitis was spoken of as very slight; and, in another, it resulted from perforation. Indeed, it does not appear, from the preceding tables, that peritonitis is of very frequent occurrence in any class of intestinal obstruction.

“ We will leave these figures to speak for themselves, and let others judge of their value when brought to a practical bearing.

“ In intramural obstructions, the large intestine was affected more than twice as often as the small, while in the extramural it was just the reverse; thus rendering the aggregate nearly equal in this respect. The average duration of attack seems to be very much shorter in the intramural obstructions than in the extramural, that of the whole being about three weeks.

“ Rokitansky, perhaps the ablest writer on this subject, states that obstructions occurring from the causes enumerated under the different heads of bands and adhesions, diverticula, mesocolic and omental hernia, are most frequent in females, from the liability which the internal sexual organs in women have to contract adhesions. Our tables, however, do not go to confirm this opinion, but rather show a proportion to the contrary. In diverticula, especially, there occurs but one woman to nine men. Rokitansky also observes that intussusception affects equally the large and small intestines; but here, too, our statistics seem inclined to disagree, and give the preference to the small intestine.

“ In regard to the symptoms—constipation, vomiting, and abdominal pain and distension are the most prominent. Diarrhoea occasionally happens. Bloody stools, tenesmus, and convulsions are peculiar to intussusception, and generally to infants.

“ Retention and suppression of urine occurred about equally in obstructions of the large and small intestine, most frequently in those of the ileum and rectum. In the latter case, probably, the retention was most generally due to the vicinity of the obstruction to the

bladder, and in the former, the diminution or suppression may have been occasioned by the high seat of stricture, and the consequent early interruption of nutrition.

"Early prostration occurs decidedly more often than gradual.

"Acute peritonitis is not mentioned as often as we might at first be led to expect; a circumstance exceedingly favorable in the question of operation.

"Gangrene is found most frequently in intussusception and obturator hernia. We have not made any statistics of it in the other classes, though it may have been mentioned.

"Strangulation is said sometimes to occur from an adherence of the appendix cæci in consequence of inflammation within that organ. In none of the eight cases of obstruction from such an adhesion was this inflammation mentioned. Since completing the list, however, we have met with one case of this sort, reported in the proceedings of the Boston Medical Improvement Society.

"Three other forms of intestinal obstruction are mentioned by Sir Astley Cooper: hernia at the ischiatic notch, at the foramen Winslowii, and perineal hernia; but as no instances of these were found in our list of cases, we have made no recognition of them in the preceding pages.

"It is much to be regretted that medical men have not taken more pains, in reporting their cases of obstruction, to give the symptoms in full, and, particularly, to give them in their order of occurrence. Thus, it is especially desirable, as a diagnostic sign, to know whether stercoraceous vomiting commenced early or late. If the former, we should be led to place the seat of obstruction high up, but low down, if the latter. The nine instances mentioned of early fecal vomiting, though good evidence, as far as they go, are by no means numerous enough to admit of drawing any solid deductions from them. Retention of urine is another interesting symptom rather rarely noted in our list, but which would be exceedingly useful in localizing the strictured part."

ART. III.—*On some points in the surgery of Hernia.*
By Mr. NATHANIEL WARD, Assistant-Surgeon to the London Hospital.

(*Lancet*, Jan. 19, Feb. 9, and March 8, 1856.)

Mr. Ward finds the remarks he has to make in these papers upon cases which for the most part have occurred in the London Hospital during the last four years and a quarter. Sixty-nine of these cases have been already grouped together and commented upon in a pamphlet which we noticed in a former volume; and thirty-one have occurred from the middle of May, 1854, to October, 1855, making 100 cases in all.

Of the 100 cases alluded to, 4 were umbilical, 63 femoral, and 33 inguinal. The aggregate mortality amounted to 33. Three deaths occurred amongst the umbilical, 19 amongst the femoral, and 11 amongst the inguinal class. The peritoneal sac was opened in all the cases of umbilical hernia; of the 63 femoral, it was *not* opened in 42,

and opened in 21. The average period of strangulation in the former amounted to 37 hours and a fraction, and of age to 52 years: in the latter that of strangulation to 57 hours, and of age to 56 years. Amongst the 42 cases of unopened sac, of the 32 that recovered the average age was 47; and of the 10 that died the average age was 66. Of the 21 cases of *opened* sac, 12 recovered, the average age being 54, and 9 died, the average age being 59. Of the 63 collectively, 9 occurred in the male, and 54 in the female; 43 were on the right, and 20 on the left side. Of the 34 cases of inguinal hernia, the sac was not opened in 10, and opened in 24. The average period of strangulation in the former was $28\frac{1}{2}$ hours; in 18 of the latter, 30 hours. Of the cases collectively, 25 occurred on the right, 9 on the left side: all took place in the male subject.

"On glancing over this analysis," says Mr. Ward, "we are struck in the first place with the fact of the operation without opening the sac having been performed much more frequently in cases of femoral than of inguinal hernia. The greater applicability of Petit's operation to the one class than to the other, appears to be attributable to the fact of the neck of a femoral sac not undergoing hypertrophy so frequently as the neck of an inguinal sac. In the latter, the pad of the truss bears directly on the narrowest portion of the sac, which is usually situated at or near the immediate neighbourhood of the outer ring, and this narrow portion receives a counter pressure from the pubis. In the former or femoral, the pad bears mainly on the body of the sac and not on the neck; we consequently find more thickening in the structure of the neck of an inguinal than of a femoral sac, a less amount of capability of yielding, and a similar calibre. The neck of an inguinal sac offers, therefore, a greater impediment to the reduction of a strangulated bowel than the neck of a femoral, and necessitates the more frequent opening of the sac. I of course exclude from this remark quite recent cases of inguinal hernia, and also those cases of large, irreducible inguinal herniæ in which the pressure from within has ultimately gained the better of the resistance from without, and in which a recent additional protrusion has been followed by symptoms of strangulation; for both to the one set and to the other, the operation without opening the sac is peculiarly appropriate. I limit the remark to those cases of inguinal protrusion of intermediate duration which most frequently demand surgical attention, and in which the contents have been reduced, and retained in the abdomen by a truss, which temporarily occludes or diminishes the calibre of the neck of the sac, and by the irregular and inconstant pressure it exerts, leads to the thickening of its walls. In the second place, we observe, *that in the forty-two cases of femoral hernia in which the sac was unopened*, the period during which symptoms of strangulation had lasted prior to the operation was less by 20 hours than the period of strangulation *in the cases in which the sac was opened*, and that the age was less by four years. I should have also mentioned in the analysis that the average day of recovery in the unopened series was the 23d, the average age also being less by nineteen years than in the unopened cases that died; in the opened series the 31st day. In 2 of the former class the wound had healed on the 5th day; in 1 case the

recovery had taken place on the 6th, 8th, 9th, 10th, and 12th day respectively. The shortest period in which a case of unopened sac had recovered was the 10th day; and after this the 21st day was the next earliest period. Now, it is admitted on all hands, that the chances and rapidity of recovery after operation, both in cases in which the sac has been opened and in those in which it has not, materially depends on the length of time the bowel has been subjected to mechanical obstruction and its consequences. Post-mortem evidence also corroborates the conclusion, that the amount of intestinal lesion, and the risks of abdominal inflammation, bear a direct proportion to the period and intensity of strangulation. Based on this conclusion, the propriety of an early operation has become prominent to the mind of every thoughtful surgeon of the present day, and his great anxiety is to relieve a strangulated rupture before its organic capabilities have been seriously interfered with, well knowing that procrastination, even for a few hours, will now and then lead to a fatal result, in consequence of gangrene of the gut, collapse, peritonitis, or other fatal complication.

" For the formation, consequently, of an unbiased estimate of the causes that determined the relative result after the peritoneal and extra-peritoneal operations, in this series of cases, the period of strangulation should of necessity constitute a primary feature in the calculation. Considering, then, the short period in which the gut had been strangulated in the series in which Petit's operation had been had recourse to, the less advanced age of the patients, and the comparatively healthy state of the bowel, it becomes a question of interest to determine, whether in *these very cases of unopened sac*, the addition of a peritoneal incision, the exposure and manipulation of the gut would have influenced injuriously, to any great extent, the ultimate event. The expression of opinion on this matter cannot be considered as decisive. It is quite clear, however, that had the sac been opened, in this series, something would have been done not required by the exigencies of the cases; and to repair that additional something which could be looked on in no other light than as the infliction of an injury, a prolonged effort at restoration would have been required on the part of the system. The progress to recovery would in consequence, no doubt, have been retarded, without, however, the certain addition of enteric or peritonitic symptoms, which I think no one could deny would be more likely to ensue from prolonged mechanical obstruction to the intestinal circulation, than from an exposure of the bowel and incision of the serous membrane. My own opinion is, that the risk of leaving the bowel unrelieved *for a long period—say 30 hours*—and then *operating without opening the sac*, would be greater than relieving the bowel at a comparatively early period of strangulation—*say 20 hours*—and *opening the sac*. I should even not be surprised to find that if ten cases of strangulated hernia, in which the symptoms of obstruction had been of short duration, and exactly similar in every respect, were operated on without opening the sac, and ten of a like nature by opening it, all the operations being performed by the same surgeon, in the same manner, and with an equal amount of skill, that the results as to recoveries and deaths would be

alike. I should think, however, that the period of recovery would be longer, and the attendant casualties during and after the operation would be greater in those instances in which the sac had been opened, than in those in which it had not been opened. I would refer, therefore, the more favorable termination, as established by this analysis, in cases of unopened sac, mainly to the early period of operation, and the less advanced age of the patients, without in any way denying that the limited nature of that operation, *though not usually of vital importance*, contributed essentially to safety and the rapidity of the cure. We have direct evidence on the very point of early herniotomy, in which the sac was opened, in a very interesting *résumé* of a series of cases that have occurred at St. George's Hospital, published by Mr. Prescott Hewitt in the 'Medical Times and Gazette' of September 23d, in the last year.

"Mr. Hewitt states, that the rule at St. George's Hospital is the reverse of that adopted at the London Hospital, being, in fact, to open the sac freely. The mortality amongst 75 cases, in which this plan was adopted, amounted to only 19; the operation having been performed, as we glean from the context, as early as practicable, with every amount of attention to a previous cautious use of the taxis, and a subsequent non-purgative treatment. This result I think a very good proof, as far as it goes, that opening the sac, although it may retard the progress to recovery, is by no means of that serious or fatal character entertained by many of the advocates of the extra-peritoneal operation. Mr. Hewitt 'considers, however, that if cases of hernia were seen at a much earlier period than they commonly are at our hospitals, and if protracted efforts at reduction were more generally given up, that the rule of not opening the sac would find many more advocates than at present.' In this remark I perfectly agree; and for the sake of surgery, and the relief of suffering, should be glad to see this view practically acted up to.

"Independently of these 100 cases that have been operated on during the last four years and three quarters, 254 other cases of hernia have been admitted, the patients suffering more or less from symptoms of strangulation, but who have been relieved by general or local measures—the use of the warm bath, chloroform and opium, the taxis, and application of cold. The taxis has been found, with few exceptions, of eminent service, and has frequently done away with the necessity for an operation, which, prior to its application, seemed imperatively called for; and I can call to mind several cases in which it succeeded when no impulse could be detected in the body of the tense tumour. This reduction of bowel into the abdomen by manipulation requires, of course, in its use extreme care, delicacy, and tact, and will frequently succeed in the hands of one understanding the principle of the proceeding, whereas it will fail over and over again, and do considerable mischief even if it should succeed, when applied by one either ignorant of or indifferent to it. I think it may be serviceable to append the following description of the professional way of applying the taxis; for to attempt to define or put in practice the frequently successful method adopted by patients themselves would be almost impossible, inasmuch as the proceeding they have recourse

to appears peculiar, and at times complicated and ridiculous, and is followed by most serious consequences. My friend, Mr. Hovell, gave me an opportunity, a short time ago, of seeing an elderly woman, who had had a right femoral hernia for many years, and on being seized, as she frequently had been on former occasions, with symptoms of strangulated bowel, applied the taxis herself during the night. It was successful, as far as referred to the reduction of the gut, but so much force had been used, that when I visited the patient, she had great prostration with marked mitigation of the symptoms of strangulation. Concluding that she would probably sink during an operation, and that the bowel had been ruptured, we decided on not interfering. In a few hours, an after-death inspection confirmed the qualified diagnosis that we had made. The following is the plan to be recommended in the use of the taxis:—Draw the body of the tumour gently down with one hand, and with the thumb and two or three fingers of the other steadily compress the neck of the hernia, with the view of causing the contained fluid to pass into the intestine above the swelling. When gurgling is heard, or when, from the sensible diminution in the size and tension of the hernia, there is reason to infer that the passage of fluid has commenced, then, at the same time, keep up gentle pressure on the body of the tumour without pressing it upwards, and the possibility is that the contents of, and then the hernia itself, will be reduced. If the body of the tumour is not drawn somewhat downwards and kept so, the part of the gut (and the neck around it) just below the lower orifice of the protrusion will be forced up, and doubled a little on itself against the borders of the opening, and injury to the intestine and a failure in reduction be the probable consequence. If this plan be found not to succeed after one carefully-conducted trial, it will rarely be found to answer after many, and an indication is then given for the performance of an operation, as delay will but complicate the case, and further endanger the life of the patient. It may seem absurd to assert or insist on so obvious a truism, but the gloomy part of the records of surgery bears such painful testimony to the neglect of this precept, that the propriety of operating early, without persisting in the taxis, cannot be too strongly enforced and too clearly illustrated."

ART. 112.—*Cases of Urethrotomy.*

By Dr. JAMES WALLACE, Surgeon to the Greenock Infirmary.

(*Glasgow Med. Journal*, April, 1856.)

In an able paper on the treatment of stricture in the urethra, we find two cases which are well calculated to illustrate the expediency of Mr. Syme's practice of urethrotomy under certain circumstances.

CASE 1.—E. C.—, a nailmaker, *aet.* 30, was admitted into the wards under my care on the 3d of February, 1853. He was of dissipated habits, and had a pale, sickly appearance. He stated that he had laboured under gonorrhœa on three occasions—first in 1839, then in 1843, and afterwards in 1851; but that he had enjoyed comparatively good health till 1847, when he became affected with difficulty in making water, which had several times amounted to

absolute retention, and for the relief of which he had frequently been under medical treatment. This, however, was followed by little benefit, and that only for a short time ; the disease in the intervals becoming more troublesome and less submissive to the ordinary modes of management. A swelling, moreover, had, eight days previous to admission, formed in the perinæum, in consequence, as he supposed, of straining during micturition, which had since been more than usually frequent and painful ; the stream at the same being remarkably small. On examination, a very tight stricture was found to exist about two inches in front of the bulb, towards which, and commencing from the point of obstruction, the corpus spongiosum was expanded for the length of an inch and a half into the form of an oval tumour, having a semi-cartilaginous consistence, and a short diameter of about three quarters of an inch.

On the 5th, 8th, and 11th, systematic attempts were made to pass a catheter, but without success. On the 5th and 8th, however, a No. 2 was introduced half way through the stricture, which appeared to be co-extensive with the tumour, and was felt to be very rough and hard ; and on the 12th, a No. 6 was found to have slipped into the bladder, after having, on the day previous, been fixed with its point pressing against the impediment. The instrument was then withdrawn, and its place supplied by a No. 7, which was retained till the 14th. But two days afterwards a No. 5 only could be introduced, and on the 23d none larger than a No. 4, although on the 18th the urethra admitted a No. 8. Nor did any improvement follow, for on the 25th and 26th the patient was unable to make water without the use of a catheter—a No. 7 being passed only with difficulty, and without obviating contraction, which was so great on the 28th, as well as on the 1st of March, as to prevent the insertion of an instrument of the smallest size. The swelling, moreover, was unchanged, and micturition as frequent and in as small a stream as formerly ; and although, on the 2d, a No. 8 could be introduced, it was felt so firmly grasped as to lead to the belief that the urethra would again resist as capriciously as before.

Treatment by dilatation having thus signally failed, I resolved to perform the operation of urethrotomy, as recommended by Mr. Syme. Accordingly, on the 4th of March, I placed the patient fully under the influence of chloroform, and, after passing a staff grooved on its convex side, divided the corpus spongiosum through a little more than the whole extent of the tumefied portion. The staff was then withdrawn, and a No. 8 catheter introduced and retained in the usual way for the space of two days, the section being attended with the loss of scarcely more than an ounce of blood, and followed by no immediate disturbance further than a slight feverishness, which commenced with a rigour on the 5th, and terminated thirty-six hours afterwards. At that time the urine was flowing equally by the opening in the perineum and the meatus ; but on the 12th, no instrument having been employed in the interval, it was found to escape more freely by the latter than the former ; and a fortnight afterwards, catheters, rising gradually from No. 8 to No. 12, having been passed every third or fourth day, the swelling was entirely reduced, and the lips of the incision closed to about the diameter of an ordinary-sized quill, micturition at the same time being not more frequent than natural. After this, unfortunately, the patient became affected with dysentery, which continued more or less during the whole of April, and retarded very materially the healing of the aperture. Cicatrization, notwithstanding, was complete by the 3d of May, at which date, as well as on the 2d, 9th, and 16th of the month preceding, a No. 12 was passed with the most perfect ease. The general health, at the same time, was so far established as to enable me to discharge the patient three days afterwards, with an injunction to return to the

dispensary once a fortnight, in order to have a full-sized instrument introduced. With this, however, he complied only twice or thrice, and I lost sight of him entirely till the 23d of May last, when I accidentally met him dressed in the uniform of the —— Militia. At my request he called at the hospital, where, in the presence of Mr. Macintyre, the house-surgeon, I passed successively, and without the slightest difficulty, a No. 8 and No. 12. He informed me, that after leaving my care he had enjoyed excellent health, and that he had never had the least indication of a return of the contraction; the stream of urine having kept always full, although no catheter had been passed in the interval, and although he had frequently indulged to excess in the use of ardent spirits. So well, in fact, did he consider himself, that, after enlisting, he never thought, though anxious to get off, of calling the attention of the surgeon to the cicatrix, which was so smooth and close as to be visible only on the strictest scrutiny.

CASE 2.—G. D—, a sailor, formerly in the navy, but now in the merchant service, æt. 37, admitted 2d February, 1853. Eight years ago, in consequence, as he supposes, of a gonorrhœa which he had contracted twelve months previously, became affected with the ordinary manifestations of stricture, complicated with perineal fistula, for the relief of which he was transferred from his ship to the Haslar Hospital, where repeated attempts were made to pass a catheter, but without success. After one of these trials, he had a severe attack of inflammation of both testicles, on the subsidence of which—the original disease being considered as not likely to yield to further treatment—he was discharged from the service as well as the hospital. The opening in the perinæum, however, closed up, but he has since, in addition to the other symptoms, frequently suffered from acute retention, which was usually relieved by the reformation of the fistula either in the old or some other situation. Being of dissipated habits, and engaged in the merchant service since leaving the navy, he scarcely ever had an opportunity of obtaining access to medical skill when he stood most urgently in want of it; so that his existence, to use his own expression, has been truly miserable. On the present occasion, however, he did not labour under such a disadvantage, his complaint becoming aggravated shortly after his return from sea a fortnight ago, when, in consequence of drinking to excess, he became affected with swelling and pain in the perinæum, which gave way ten days afterwards in three places, but without alleviating, as formerly, the difficulty of micturition.

On examination, the perinæum feels indurated, and is slightly pained on pressure; an opening sufficient to admit a probe—which can be passed two inches in the direction of the membranous portion of the urethra—existing nearly half an inch to the left of the raphe, and one in front of the anus; while, on the opposite side of the mesial line, and almost on the same level, are the cicatrices of two others, which closed in little more than twenty-four hours after they were last formed. On attempting to introduce a catheter, a stricture is detected about half an inch behind the meatus, and allowing to be passed—and that, moreover, only after considerable manipulation—no instrument larger than a No. 3, which is again caught about the bulb, where the obstruction is so great as to resist even a No. 1. The urine is passed very often and with great straining, and escapes from the fistula as well as the meatus in a small dribbling stream. The patient, besides, is remarkably irritable, and suffers much from spasm during attempts at catheterism.

Such being the nature of the case, I began on the 4th to dilate the stricture systematically, and succeeded in passing a No. 5 through the anterior. On the 8th and 10th the operation was repeated, the catheter on the last of these occasions being fixed with its point pressing against the deep-seated im-

pediment, and retained for twelve hours—an expedient which produced no apparent benefit, in consequence of the irritability of the patient being so great as to lead him frequently to withdraw the instrument. For three weeks after this, catheters, gradually increasing in size from No. 5 to No. 12, were every third day introduced through the anterior obstruction, and attempts made at the same time with others of smaller calibre to pass the one at the bulb. In this way the stricture behind the meatus was completely overcome, and the patient enabled to keep his water for four or five hours at a stretch, the stream being much fuller and the aperture in the perinæum entirely closed. This, however, was followed by the re-opening of one of the old fistulæ on the right side of the raphe, from which, also, there was an escape of urine during micturition, but only in drops. At last, on the 1st of March, while the patient was fully under the influence of chloroform, a No. 7 was introduced into the bladder; the posterior stricture being found to be very rough and hard, and to embrace the catheter very tightly. The instrument was then kept in for twenty-four hours, and a further attempt made to pass it on the 4th, but without success, the bulbous portion of the urethra resisting so spasmodically as to admit not even a No. 1. On the induction, however, of a state of anaesthesia it again yielded, and to such an extent that a No. 9 could be got in, though not without difficulty.

Both strictures having been thus dilated, I was desirous of watching, for a short time, the progress of the case under no interference at all; for, as I regarded the deep-seated one as peculiarly adapted for Syme's operation, I thought it necessary to ascertain, before having recourse to division, whether the other would again contract so as also to require the use of the knife. But this I learned in a way different from what I wished, for the patient, in consequence of the great relief afforded by the measures already employed, believed that the disease was entirely removed, and, with the precipitancy common to his class, insisted, notwithstanding the existence of the perineal fistula, on being discharged from the hospital. On the 7th, accordingly, I had to let him go, but with great reluctance. Four days afterwards, however, he came to the dispensary for the purpose of having a catheter passed, but on that occasion none could be insinuated through even the anterior obstruction, which became relaxed only on the exhibition of chloroform, when a No. 8 was got in, but only to be effectually opposed at the bulb, where the resistance was so strong that a No. 1 could not be introduced. Nor did matters improve after this; for on his appearing again on the 15th, the penis, anterior to the scrotum, as well as the adjoining portion of the latter, was considerably swollen and pained, pus being observed to escape freely from the meatus when pressure was made on the corpus spongiosum a little behind the seat of stricture. In this situation, moreover, fluctuation was distinctly perceptible, so that there was unequivocal evidence of a perforation of the urethra. The patient being now under the necessity of coming into the house, a common director was passed through the first stricture, and an incision made through the skin and fascia, the latter of which was found separated on both sides from the body of the penis. Vent having been thus given to about an ounce of healthy purulent matter, another incision, an inch in length, and extending from a little before the constricted portion to the point of rupture, was made through the corpus spongiosum itself. After this the cellular inflammation rapidly abated, and without anything of an untoward nature following, except an attack of orchitis on both sides, which was, however, easily subdued by appropriate treatment. Cicatrization, besides, advanced so favorably, that by the end of the month the opening made in the urethra was entirely closed, no urine having escaped from it since the 24th. At that date, as well as on the

29th, a No. 9 was passed down to the bulbous portion of the canal; and for five weeks afterwards, repeated attempts, aided and unaided by chloroform, were made to overcome the obstruction in that situation, but without success, till the 7th of May, when a No. 7 was got in with some difficulty, and while the patient was under the influence of the anæsthetic. The stricture being then found as gristly as ever, and the perineal fistula still patent, and micturition, at the same time, frequent and unaccompanied with straining, I resolved to delay no longer performing urethrotomy, as I had originally intended. On the 10th, accordingly, after the patient had been rendered insensible by chloroform, a staff, grooved on its convex side, was passed into the bladder, and an incision, two and a half inches long, made through the skin and fascia in the mesial line of the perinæum, its lower angle being about an inch in front of the anus. The finger placed in the wound now detected the deep portion of the urethra separated from the subjacent parts, the interspace being in communication with the fistulous openings, and extending for some way anterior to the bulb. This itself was considerably enlarged and extremely condensed, and the canal, in that situation, as well as for a few lines in front, remarkably constricted. The whole of the bulb, therefore, and a small portion of the corpus spongiosum anterior to it were divided; the incision which was made from behind forwards, being about an inch in length, and attended by the loss of no more than two ounces of blood. The staff being then withdrawn, a No. 9 catheter was introduced into the bladder, and kept in for forty-eight hours, two days after which it was again passed, and in four days more a No. 10. At this time the urine was found to escape equally from the meatus and the aperture made in the perinæum, but a month afterwards it was observed to flow principally from the former, the incision being closed to an opening existing in the centre of the cicatrix, and having a diameter of about the eighth of an inch. During the interval, a No. 10 had been passed every fourth or fifth day, and nothing unfavorable had occurred except a slight attack of hemorrhage, which set in on the 21st of May. This, however, did not appear to proceed from the divided surfaces of the corpus spongiosum, but rather from between the latter and the fascia at the place where they were separated from one another in front of the bulb. It amounted, moreover, to no more than six ounces, and was easily checked by a compress and bandage, gallic acid being given, at the same time, internally, for greater security. Nor did any other complication afterwards arise to interrupt the progress of the case, the only source of anxiety being the slowness with which cicatrization advanced for a month after the middle of June. During that time a No. 11 was passed every fifth or sixth day, but during the next four weeks no instrument whatever was used, in consequence of the point of the catheter being found to slip readily through the opening in the urethra into the space below the membranous portion. The incision, at the same time, was occasionally touched with the nitrate of silver, and with so much benefit, that by the middle of August it was contracted to an aperture capable of admitting merely the point of a small probe, and allowing the urine to escape during micturition only in drops. The original fistula, besides, was completely closed, and the local uneasiness entirely removed, the canal being in such a state that a No. 11 could be passed with the most perfect ease. The general health, likewise, was so good, that I would then have had no hesitation in discharging the patient, but for the nature of his occupation, which would necessitate his leaving the place before I could have the means of judging as to the probable permanence of the cure. For this reason, as well as because he made himself generally useful in the house, he was allowed, although the incision had been wholly closed since the beginning of Sep-

tember, to remain till the 27th of the following month. During the interval, a No. 11 had been passed every fortnight, but after that only one opportunity was afforded of repeating the operation. This occurred about two weeks after the patient left the hospital. He was then about to proceed to sea, in consequence of which I gave him a No. 9 metallic catheter, and taught him how to use it himself. This he was enjoined to do every four weeks at least; but in a letter which he sent me, and dated Moulmein, May 24th, 1854, he stated that he attempted only once to introduce the instrument, and was afraid to pass it much beyond the seat of the anterior obstruction. Micturition, however, was easy and in a full stream, the general health, at the same time, being better than it had been for ten years previous.

ART. 113.—*The rationale of Dilatation in the cure of Stricture.*
By Mr. HENRY THOMPSON, Surgeon to the Marylebone Infirmary.

(*Lancet*, Feb. 16, 1856.)

“ It may be assumed that the safest, simplest, and most widely applicable mode of treatment for stricture of the urethra is that which consists in the employment of gradually progressing dilatation—dilatation by itself, uncomplicated by any associated action of lacerating, scarifying, or cauterizing. No axiom in surgery has been better established, or perhaps more commonly received, than this. And it is worthy of remark, especially in relation to caustic applications, that whatever agent is employed, the amount of its influence cannot be estimated altogether apart and separate from that which arises from dilatation. The introduction of any instrument into a stricture exerts a certain influence upon the obstruction, altogether independent of the action of any caustic matter which may be introduced with it. It is impossible to avail ourselves of any force existing in the latter without exerting also the influence of the former. We may use dilatation alone, or dilatation plus the action of some chemical body, but we cannot employ the chemical agent dissociated from the dilating action by which its application is accompanied. What, then, is the rationale of the operation of this agent, which we commonly speak of under the term dilatation ?

“ The universally acknowledged influence of dilatation—that is to say, of pressure exerted upon the internal surface of a portion of urethra preternaturally thickened and contracted, has frequently formed a topic for discussion amongst physiologists. Some have regarded the action of the sound or catheter upon the stricture into which it is introduced as merely mechanical, believing that the hard and unyielding instrument enlarges a passage, the walls of which are composed of extensible materials, just in the same manner as a tight glove, or a small hat, may be stretched to suit the wearer’s proportions. On the other hand, most have felt the necessity of attributing to the act of pressure some power of producing absorption, and consequent removal of the organized materials of the obstruction, and such reject the notion of dissipating a permanent stricture by the mere mechanical action as untenable, or at least improbable.

“ I have long sought to obtain, by observation, some clue to the

rationale of the action of dilatation as a means of cure in stricture; and I think, by regarding closely certain phenomena which accompany its employment, we may obtain some little light upon the subject, at all events a hint or two which may be useful in practice.

" The first effect of passing an instrument gently through a narrow stricture, (and let me be understood as speaking in general terms, and not of exceptional cases,) such an one, for example, as will only admit an instrument of the size of about No. 1 or 2, without occasioning much pain or irritation, is that an immediate increase in the size of the stream is usually noted by the patient on the first succeeding act of micturition; but, in the course of a few hours afterwards, the stream is observed to be narrower than it was before the instrument was introduced; there may be even a temporary inability to micturate—in other words, an attack of retention may supervene. Subsequently, the stream gradually regains its previous size and force, and in a day or two probably exhibits a degree of enlargement as the final result of the catheterism employed. The increase, however, is rarely quite equal to that which appeared at the first act of micturition following the operation.

" Now the first or immediate improvement must have been clearly due to the mechanical action of the dilating body on the stricture. No one will for an instant imagine that absorption or any allied vital action could have taken place so rapidly as to produce that effect. It was, doubtless, mechanical only. The next result observed, or that of diminution of the stream, may be regarded as the consequence of some temporary congestion, together with some spasm, possibly, in the parts, arising from the slight degree of irritation necessarily occasioned by the pressure of the foreign body introduced, a phenomena which may be designated by the term *reaction*; and this reaction will correspond, other things being equal, with the degree of pressure exerted, and with the amount of sensibility possessed by the urethra. The third and final result is that of gradual increase in the size of the stream, indicating the stage of subsiding reaction, during which congestion disappears, and at the same time the removal by absorption of some portion of the original deposit forming the stricture appears to take place, perhaps, in some degree, as a consequence of the action, whatever it may be, which is dissipating the recent congestion. The rapidity with which these actions follow one another, and the extent to which they are developed, vary greatly in different individuals. It is the existence of undue sensibility in the urethra, or its disposition to exhibit the phenomena of reaction with rapidity and intensity, which in a great measure constitutes that condition of a stricture which we commonly understand as 'irritable,' and the extent of which irritability correspondingly prolongs or retards the progress of cure. It is during the last stage, that of subsiding reaction, that the *vital* or *permanent* dilating effect (as distinguished from that which is merely mechanical and transient) is obtained. It is then that the true benefit to be obtained from the employment of dilatation is realised.

" Granting that these observations are correct, we at once have explained some phenomena which all must have encountered who are frequently called upon to pass instruments in stricture. All such

know practically that nothing is gained by shortening unduly the interval of time which must elapse between each consecutive application of the catheter; but that, on the contrary, considerable irritation is often thus induced, and the progress of the case is rather impeded than advanced; in other words, that the surgeon is making more haste than good speed—a principle which has long been insisted upon as important by the most experienced teachers of surgery.

“At this point let us call to mind what is the essential nature of organic stricture. It is the presence of a deposit of organized material in and around the urethra, occasioned by inflammatory action originally set up in the mucous membrane. Bearing this in mind, it should be a cardinal principle of treatment to avoid producing any action which might in any way tend to excite renewed inflammation. A repetition of the catheterism should never be made until what has been termed the period of reaction has subsided, and the disturbing effects of it have disappeared. If we pass an instrument during that period, we increase or prolong reaction without attaining the permanent benefit of the process which would have succeeded it. It is not possible to achieve progress at that moment. We may pass instruments day after day; but if on each occasion this is done before the period of reaction has disappeared, we shall not only fail to advance, but we shall probably intensify that condition, or convert it into one of inflammation, and thus increase an evil, which the same application, were it less frequently employed, would effectually obviate. The golden rule which must guide us in applying dilatation, both in regard of the extent to which it is to be carried at the time, and of the proper length of the interval which is to elapse between each repetition of it, is to apply just so much dilating power as is compatible with a minimum degree of irritation; to exercise just so much mechanical pressure as can be exerted without producing pain or uneasiness, much less any obvious signs of inflammation; and not to reapply the instrument during the period of reaction—that is, until any excitement produced by the previous catheterism has completely subsided. The fulfilment of these indications will conduce most safely and certainly, and in the long run the most quickly, to a successful result.

“From this point of view, we may at once perceive how it is that rudely or rapidly conducted dilatation, although apparently successful for a time, is certain ultimately to increase the evil which it was intended to avert. Thus it is that a patient with long-standing stricture will frequently observe that his complaint has become notably more obstinate and confirmed after each succeeding course of treatment—that is to say, the contraction reappears with greater rapidity and force than it has done before. He has probably been treated by a too rapid succession of instruments, or by some irritating agent which, at the same time that it opened the passage for awhile, has induced fresh inflammation, and therefore fresh deposit in or around the existing stricture, a result which is destined with absolute certainty to assert itself at some future period more obstinately than before.

“It is probably due, in a great measure, to a disregard of the vital actions resulting from its employment, that dilatation has been pro-

nounced by some surgeons inadequate to afford a complete and lasting cure of any stricture, and has been by many unquestionably underestimated as a therapeutic agent. And thus it is that complicated machines, in almost inexhaustible variety, have been designed for the purpose of scarifying, cutting through, and even of cutting out the urethral obstruction. The construction of these appears, for the most part, to be based on the idea that the urethra is a tube possessing merely mechanical properties, an obstruction of which is therefore to be treated by the application of merely mechanical powers. If, however, dilatation be employed by steps sufficiently gradual, and with special care not to excite any degree of inflammatory action, the result will generally be exceedingly satisfactory, not merely in mild cases, but in those of no ordinary severity. But if, while opening the contraction by dilatation, we at the same time irritate unnecessarily or inflame the parts acted upon, we shall at least only afford temporary relief to the complaint at the expense of its future augmentation. Employed in this way, dilatation is assuredly no cure for stricture.

"It would be easy for me to demonstrate, by the recital of numerous illustrative cases, that the rationale of the action of dilatation upon stricture here offered, and the principles deduced from it, result from an extended observation of the physiological phenomena which arise in connection with catheterism, but I forbear to occupy space in this manner. The foregoing remarks form a brief record of the facts which the details of many cases would but present in a manner necessarily less forcible and trite. I am daily more convinced that simple dilatation, regarded in relation to the vital action with which its employment is associated, is a safer and much more powerful remedy than when it is applied as a mere mechanical agent, irrespective of the indications which a regard to its physiological action affords; and that the cases are exceptional which are not amenable to its influence, provided it be judiciously employed and maintained for a sufficiently long period of time. The exceptional cases are, for the most part, those in which the urethral sensibility is so great, that the reaction following simple dilatation is sufficiently violent to render this mode of treatment extremely tedious and uncertain; or in which extensive and long-standing deposit around the canal has taken place, and manifests a retractility so obstinate and confirmed, that nothing short of free division of the abnormal tissue appears capable of effecting a complete cure."

ART. 114.—*Mode of testing the Translucency of Hydrocele.*
By Dr. W. FRAZER.

(*Dublin Hospital Gazette*, Nov. 1, 1855.)

Dr. W. Frazer directs attention to what he believes to be one of the best methods of employing the valuable test of translucency in hydrocele, a test which is practically so important as a differential diagnostic in discriminating between mere serous effusions in the cavity of the tunica vaginalis and various affections of the testicle, or

scrotal hernias. Of course, every one is aware that the test is not free from objection ; thus, it is almost or entirely useless in those instances in which the effused fluid is of very dark colour, or is mixed with blood, &c., and also whenever the tissues of the tunica vaginalis are of unusual thickness, or are the seat of cartilaginous or osseous deposit, or when they are coated internally by the products of previous inflammatory action. Independently of these exceptional cases, however, there are a number to be met with in practice, in which the test is of value.

“ As ordinarily employed, by placing a candle at one side of the tumour, and excluding the passage of the light laterally by means of the hand, it is, at best, a clumsy proceeding, and liable to errors. I have found the stethoscope much more useful, as a means of excluding the diffused light, and by applying the eye to its expanded bell-shaped portion—the ear-piece being firmly placed upon the scrotum, held in a tense condition—we can even map out the state of the parts with tolerable accuracy, if the contained fluid be of ordinary character, and detect the position of the testicle by the opacity it produces, especially when it occupies any unusual locality, as the front or sides of the scrotum, or is adherent from inflammation after previous tappings. We can employ either a lighted candle or bright sunlight, as our best means of obtaining the requisite illumination ; but even in diffused daylight I have succeeded very well in the manner I mention.”

ART. 115.—*On the influence of Circumcision in preventing Syphilis.*

By Mr. JONATHAN HUTCHINSON, Surgeon to the Metropolitan Free Hospital, &c.

(*Medical Times and Gazette*, Dec. 1, 1855.)

The Metropolitan Free Hospital being situate in a locality in which many Jews reside, its out-patients' rooms furnish a good field for estimating the relative prevalence of different diseases amongst them and others. The following statement of my past year's experience as to venereal diseases, appears to have some importance, and I am induced to communicate it at the present time with especial reference to a paper which appeared in the ‘ Medical Times and Gazette’ of the 17th, from my friend, Mr. Cooper Forster, recommending the more general practice of circumcision as preventive of certain diseases of childhood. My Jew patients have, I believe, been in proportion of nearly one third to the others. The subjoined table shows the proportion of the two classes of venereal disease.

	Total of Venereal Cases.	Gonorrhœa.	Syphilis.	Proportion of Gonorrhœa to Syphilis.
Not Jews . . .	272	107	165	0·6 to 1
Jews . . .	58	47	11	4·3 to 1

Thus we find that, notwithstanding a gross proportion of nearly one third to others, the cases of syphilis presented by Jews are only as one to fifteen. That this difference is not to be accounted for, either by their superior chastity, or by their unwillingness to seek medical aid for such diseases, is conclusively proved by the fact that they furnish very nearly half the cases of gonorrhœa. The circumcised Jew is then very much less liable to contract syphilis than an uncircumcised person. This conclusion has, I believe, been long entertained by many surgeons of experience, but I am not aware that it has ever before been made the subject of demonstration. No one who is acquainted with the effects of circumcision in rendering the delicate mucous membrane of the glans hard and skin-like, will be at a loss for the explanation of the circumstance.

Taking then this fact as established, it suggests itself as probable that circumcision was by divine command made obligatory upon the Jews, not solely as a religious ordinance, but also with a view to the protection of health. Among them promiscuous intercourse was certainly not regarded in the heinous light which it is under the present dispensation, while polygamy and concubinage were openly permitted. One is led to ask, witnessing the frightful ravages of syphilis in the present day, whether it might not be worth while for Christians also to adopt the practice. Such a proposition, if intended only to protect the sensualist from the merited consequence of loathsome vice, would, it is to be hoped, be dismissed at once by every right-thinking man. But the matter is much wider. In syphilis the innocent suffer with the guilty, and the wife and the children often have to bear the penalty of the sin of the husband and father. During the period from which the statistics just adduced have been obtained, I have had under care at the hospital a total of 252 children, under the age of 5 years. Of these 179 have been of Christian parentage and 73 of Jewish. Among the former have occurred 27 cases of congenital syphilis, while among the latter there have been but 3. Thus it would appear that but one twenty-fourth of the surgical diseases of Jewish children acknowledge a syphilitic cause, while no less than one sixth of those of Christians are of such origin. In this calculation I omit altogether the numerous diseases which are, in all probability, remotely dependent on syphilis, and comprise those only which present the disease in a well-marked form. The same inferences are pointed out by counting the proportion of syphilis cases in women. Of a total of 97 women who have, during the year, come under treatment for one or other form of venereal disease, 92 have been Christians and 5 Jews. Of the 91 of the former, no fewer than 61 have suffered from syphilis, and at least two thirds of these have been married women, who, there was every reason to believe, had contracted the disease from their husbands without any fault of their own.

With regard to its being the duty of the surgeon invariably to remove the prepuce of infants born with congenital phymosis, which Mr. Forster, in the paper referred to, so ably points out, I have long held a similar opinion with his own.

ART. 116.—*On the non-mercurial treatment of certain forms of Syphilis.*
By Mr. HENRY LEE.

(*Medical Times and Gazette*, Nov. 17, 1855.)

In a paper, read before the Medical Society of London, Mr. Lee began by stating that the opinions of men of eminence should not form rules of practice, except those opinions could be corroborated by well-ascertained facts; and in alluding to the treatment of syphilis, he showed how diametrically opposed had been the opinions of the mercurialists and non-mercurialists. He (Mr. Lee) thought that the different kinds of syphilitic affection, from which these authors originally took their opinions, might account for the different treatment which they seem to have been inclined to adopt, without discrimination, in all cases. He considered, for his part, that there are distinct morbid actions produced by the application of the syphilitic poison, which actions might be divided into four classes. These had been mentioned in a former paper, and required distinct methods of treatment. The first class referred to the syphilitic ulcer, presenting adhesive characters, the globules of the pus exhibiting a smooth outline; the second included those cases in which the secretion from the infected part consisted of well-formed pus from an early period; the third class was that in which the local disease extended to the lymphatic vessels, and in which the glands consequently suppurred; and the fourth where the contact of the syphilitic matter produced mortification or phagedæna of the part to which it was applied. The author had proved, on a former occasion, the truth of the proposition enunciated in the third class, supporting his opinion by forty-nine cases, in which suppurating bubo was a symptom. As he had failed at that period to convince some of his hearers, he had again put this proposition to the test of experience, and had caused statistical tables to be drawn up, including all the patients treated at the Lock Hospital. These tables are extremely elaborate, and, from their analysis, Mr. Lee concludes that those sores which affect the patient's constitution are not often accompanied by inflammation of the absorbents; and that when they are, this inflammation may be traced to some accidental complication. Hence the author lays it down as a practical rule, that when a primary ulcer has clearly given rise to an inflammatory bubo, there will be no infection of the patient's system from that disease; and inasmuch as the local disease will, in general, heal as soon without mercury as with it, and will not be more likely in the one case than in the other to be followed by secondary symptoms, such a mode of treatment is, as a rule, unnecessary, if not injurious. Mr. Lee, in referring to some of the other classes above mentioned, came to the conclusion that there are three of them which do not require mercury:

1. Those accompanied by lymphatic inflammation.
2. Those in which the inflammation produced by the contact of the poison terminates in mortification, which latter may be either superficial or deep.
3. Those in which the poison gives rise from the commencement to suppurative inflammation.

ART. 117.—*On Gonorrhœa and Gleet* By Mr. ACTON.

(Lancet, Dec. 22, 1855.)

The following remarks are from a series of papers on the modern treatment of diseases of the generative and urinary organs in Paris as compared with the treatment in London.

“I think,” says Mr. Acton, “surgeons may now congratulate themselves that these complaints have ceased to be the *opprobrium medicorum*. Ever since the attention of the profession has been called more immediately to these diseases, the treatment of the complaints have ceased to be empirical, and we now pretty well know the cause of the relapses, as well as the reason why gonorrhœa and gleet have been so difficult of cure. Amongst the out-patients, M. Ricord employs cubeb in powder, which he gives in large doses, but in private practice he usually prescribes copaiba capsules, together with his favorite injection, consisting of ten grains of the subnitrate of bismuth to six ounces of water.

“Private practice in London offers great opportunities for the treatment of this complaint, and I find when the acute inflammatory stage of gonorrhœa has passed, or before it has gained ground, few cases fail to be immediately benefited by taking capsules together with a lead injection. I still, however, continue to lay great stress on the necessity of showing patients how to employ an injection; but as I have, in my treatise on these complaints, dwelt at great length on this subject, it is superfluous to recapitulate my observations. The modern improvements consist in carefully investigating the cases that do not immediately improve under the treatment spoken of above. If the patient be desired to pass urine in a large test-glass, the urine will be found to deposit, on cooling, more or less of a thick, tenacious, jelly-like mucus. In some cases this is easily shaken up, and mixes for a moment with the urine. In more severe cases the deposit is tenacious, or holds together at the bottom of the glass. In addition to these signs, which to the practical surgeon are of great importance, we not unfrequently find pain in passing urine, as well as a frequency in doing so. This pain is occasionally referred to the neck of the bladder, end of the penis, or may be felt in the perinæum. In other instances the patient complains that there is a heaviness in the perinæum, and some uneasiness along the spermatic cord. Pain, however, is not necessarily present. I am at the present moment attending a gentleman from the country, who had for three months been taking capsules and employing nitrate of silver injections without success. Suspecting the affection of the neck of the bladder, I requested him to pass urine, which, even before cooling, showed an appearance similar to what is often witnessed—viz., at passing it is not clear; in a few minutes we notice a cloud suspended for the moment in the clear transparent fluid. As the fluid cools, this falls to the bottom, and in the instance cited formed a quivering, jelly-like body, with a little pus on the surface, which is readily mixed with the urine on slight motion: not so the mucus. In other instances, where there is less secretion from the

bladder, the pus is entangled in the mucus, and we see it suspended in the jelly-like mass a little way from the bottom.

“ The occurrence of any of the symptoms alluded to above during the treatment of gonorrhœa, should induce a surgeon to test the urine, and examine it carefully; for, as a general rule, it would be well to lay aside injections and copaiba, as in this stage both are worse than useless. The complaint has become complicated by irritation of the neck of the bladder, or prostate, and unless timely treatment be employed, the patient will suffer from some subacute affection of the bladder, which it will be difficult to cure. Two faults, equally great, may be committed at this stage of the complaint; if feeble treatment be prescribed, the disease goes on unchecked; if nitrate of silver be employed, and active treatment put in force, acute symptoms set in, and the patient is liable to affection of the testicles, or great irritation of the bladder.

“ A case, strongly exemplifying the difficulties a surgeon occasionally encounters, has occurred to me since returning from Paris. A pleasant, agreeable fellow, who had lately left a northern city, came to consult me for an affection of the testicle. I found the left epididymis enlarged, as well as the testis slightly, without pain along the cord. My patient told me that there was a slight discharge from the meatus, which he considered as of little or no consequence. These symptoms had been somewhat augmented by recent connection. The history he gave was as follows: the complaint had existed some months, getting sometimes better, sometimes worse, until he had become weary of it and its treatment; as long as he was tolerably quiet, he remained much in the same state as when I saw him; but as he was obliged to travel, every now and then accessions came on, and he wished something to be done. I saw the difficulties which the case presented; but not at all deterred by them, I applied pressure on the testicle, ordering an injection and capsules. The pressure at once relieved the testicle; but frequent desire to pass urine coming on, I at once desisted from the capsules and injections, and prescribed opiate suppositories. In a few hours the more urgent symptoms were relieved, and the patient was doing well, when, in the next twenty-four hours, pain came on in the testicle. (I may mention, that the bandage on the testis had been getting loose.) I now removed the pressure, and the pain in the testicle at once became tranquillised, but the organ relapsed into the former state of enlargement. During the next few days I continued the suppositories, together with the internal use of the tincture of hyoscyamus, and liquor potassæ; and, lastly, laying aside these, I ordered the patient to take the extract of spruce for some days, which I find acts best on these subacute affections of the bladder.

“ I mention the case as one strongly (though fortunately rarely occurring) marking the course disease will run when it has once obtained the mastery; for, as we cure one complication, another occurs. Yet such instances by no means deter me from again recurring to the former treatment as soon as the irritation has ceased. Thus, in the present case, I had recourse to bandaging the testis; and, at a later period, employed copaiba and injections to cure the discharge. If this

course be not pursued, the patient is a long time in getting well, and, unfortunately, permanent mischief too often results.

“Inattention to the symptoms spoken of above have caused great blame to be thrown on injections, which are indispensable in the treatment of these subacute cases of gonorrhœa. I am constantly meeting with instances in which (to a minor degree, it is true) gonorrhœa is allowed to run on, and the patient’s stomach becomes enfeebled by large and long-continued doses of copaiba, without any amendment of the discharge. Let me advise the surgeon, in all such cases, to lay aside the oil, and examine the urine, when he will find it in the condition I speak of. Under these circumstances, copaiba appears to have no action whatever, whereas the turpentine have, particularly the extract of the spruce fir,—an infusion of the young shoots is to be preferred; but as in London we find a difficulty in procuring the tops of the branches, I now recommend in all such cases the inspissated extract of the spruce fir, a substance introduced from Norway in small jars, for the purpose of making spruce beer, and which may be procured at most of the Italian warehouses. I formerly gave the spruce drink, but patients complained that it was not easily obtained, and was a flatulent remedy, so now I order it as follows:

R. Ess. Abietis Nigr. (spruce fir), inspiss., 3ij;
Mag. Carb., q. s.
M. ft. pil. xxx.
Cap. i vel ij, bis vel ter in die.

“Under the influence of this remedy and opium suppositories the mucus in the urine ceases. As soon as this occurs the spruce may be laid aside as well as the suppositories.

“Formerly I was in the habit of prescribing opiate enemata; but it is often difficult to induce patients to undertake their administration, and the suppository is preferred. In private practice the young surgeon will find that the feelings of the patient must be studied as far as is compatible with reason, and this reminds me of another hint, which may not be thrown away upon the novice who wishes to succeed. I allude to the vehicle in which the opium is conveyed. I was in the habit of using Spanish soap until complaints were made that it was difficult to introduce the suppository from the pill becoming soft. I therefore prescribe it now as follows, with the butter of the cacao-nut:

R. Pulv. Opii, gr. j;
Buty. Cacaonis, gr. x.
M. ft. suppositorium.
Hac nocte utend.

There are contrivances for passing soft suppositories; but patients dislike them, and they are difficult to be manipulated, and I find if the pill is firm it can be readily passed up the anus.

“ Gleet.

“ As the diseases of the urinary organs become better known, the profession lays aside specifics, and studies the indications which each case presents. One of the most important which the surgeon will have to attend to in gleet consists in ascertaining the cause of the chronic discharge. I presume, after what has been said in the above article, he will not now fail to look for a mucous deposit thrown down when the urine stands. Supposing that such deposit is not found to exist, and that gleet has been troubling the patient some time, the most important proceeding consists in passing a bougie to ascertain the condition of the canal of the urethra. It is now a well ascertained fact that long-standing inflammation of the urethra will produce thickening of its walls, as well as an irritable granular condition of certain portions of the canal, resulting in stricture, attended by a purulent secretion from the surface. Now, in this state of things, all the medicine in the Pharmacopœia taken by the stomach will fail in curing the local complaint. Experience having taught us these facts, the first step is to ascertain if in any given case this morbid condition of mucous membrane exists. Formerly the common bougie was employed, but more recently Ricord employs a bougie terminating in a bluntly pointed knob. It is made of gum-elastic, which renders it very pliable. The instrument, previously oiled, is passed along the canal until it meets with resistance; gentle force should be employed in the attempt to pass the obstruction. If the instrument does not pass, smaller sizes are used until the stricture is passed. The instrument is then withdrawn gently, and a stricture is thus detected by the instrument being held firmly from behind by the contraction. In slight cases of stricture, and in the spongy condition of the urethra we are now speaking of, no plan can succeed as well as this. Moreover, by measuring the distance on the instrument, we are enabled to judge of the exact length of the change of structure of the canal. The form of gleet depending on this condition of the passage becomes now one of the most tractable the surgeon has to treat, and it readily yields to the introduction of the bougie two or three times a week. In my treatise I have at great length dwelt on the necessity of continuing the employment of injections with dilatation, and shall therefore not further allude to the subject on this occasion.

“ Before closing my remarks, I would call the attention of the profession to these facts as explaining the apparent contradiction that has existed on the employment of injections, which by some have been as strongly recommended as they have been reprobated by others. The indiscriminate employment of these useful adjuncts to treatment must be laid aside; but I can assure my readers that no ill consequence will attend their employment should the simple precaution be taken of testing the urine, and laying the stimulating liquid aside as soon as traces are discovered of its acting on the bladder. These are the modern acquisitions of science.”

(c) CONCERNING THE UPPER EXTREMITY.

ART. 118.—*Ununited fracture of the Humerus cured by resection.*

By Mr. SPENCE, Surgeon to the Royal Infirmary, Edinburgh.

(*Edinburgh Medical Journal*, Nov. 1855.)

We take the following interesting case from the case-book of the 'Edinburgh Medical Journal':

CASE.—On the 11th November, 1852, A. Johnston, æt. 22, had his arm caught in a threshing mill, by which the humerus was broken at two points; there was one fracture two inches below the surgical neck of the bone, and another at the junction of the middle and inferior thirds of the bone. He was seen by Mr. Falconer of Loanhead, who adjusted the fractures, and put up the limb in pasteboard splints. I saw him in the beginning of February, 1853, at the request of Mr. Falconer, as the lower fracture had not united. On examining the arm, I found the upper fracture firmly united; the lower one, however, was quite moveable, but there was no overlapping of the ends of the bone, nor any deformity when the limb hung by the side.

As the injury was comparatively recent, I advised a further trial of the splints, with pads, so as to keep the parts in accurate contact, the use of nutritious diet, and exercise in the open air. This plan was persisted in till the end of March, 1853, when I again examined the arm. There was no attempt at union, and the ends of the bone were felt as if atrophied. I tried to excite action by introducing, by subcutaneous puncture, a strong sharp needle, or rather narrow knife, down to and between the ends of the bone, so as to break up the fibrous structure between them, and to scrape their surfaces. The splints were then carefully re-applied, and the arms firmly supported. At the end of six weeks, I found that no change had been produced.

In September, 1853, I passed a seton between the ends of the bones, and retained it for some days, till suppuration occurred; but even this gave rise to very little local excitement, scarcely any inflammatory swelling supervening. What little there was, passed off very quickly on the seton's being withdrawn, and no benefit resulted from its use.

I had previously proposed resection of the ends of the bone, but at the same time thought it right to explain that it was attended with more risk than the methods hitherto adopted, and the young man's friends were at first opposed to its performance. After some months had passed, however, the patient was so anxious to give it a trial, that his friends consented, and I performed the operation in April, 1854.

I made a longitudinal incision on the outer side of the arm, about three inches in length, its centre corresponding to the seat of fracture. The arm was then bent at the false joint, so as to render prominent the ends of the bone, and the incision was carried down to them. I had determined to separate the bone as little as possible from the surrounding parts, and therefore merely cleared the lower end of the upper portion sufficiently to enable me to saw through about half its thickness, and completed the section with a pair of strong bone-pliers. I then did the same to the end of the lower fragment, and snipped of some irregular portions. There was very little bleeding, and no vessel required ligature. The incision was closed with four points of suture, dry lint applied, and the arm placed in a rectangular splint, so adjusted as to

allow the wound to be dressed without moving the limb. No constitutional disturbance followed the operation; the pulse never rose above 80, he suffered almost no pain, and the wound united entirely by the first intention. Indeed so little swelling or irritation appeared at first, that I was afraid this operation also would fail, but at the end of ten days there was firm limited swelling at the seat of fracture, and the patient stated that he felt the sensation of constant pricking pains in the part. At the end of six weeks from the operation, there was hard swelling, involving the ends of the fractured bone, and it seemed firmly consolidated. I therefore sent him home to the country, but directed him to keep on the splints for some time.

I saw him several times, and I allowed him gradually to use the arm; but in November, 1854, I found that from using too much liberty with the arm, it had bent considerably at the united part, showing that it had not quite consolidated. I therefore fractured it fairly across, and re-adjusted it. This was attended with more pain and swelling than had yet occurred after any operation; but in two months afterwards, when I removed the splints, I found firm osseous union, and he can now use the arm with perfect freedom.

ART. 119.—*A new operation in Ankylosed Elbow.*
By Mr. BUTCHER, Surgeon to Mercer's Hospital, Dublin.

(*Dublin Quarterly Journal of Medicine*, Nov. 1855.)

“There is a condition of the elbow free from disease, the result of injury, when it has become fixed by bony ankylosis in the straight position, that requires special notice. I at once cede the point that, by many, such an inconvenience might be borne with rather than running risks by submitting to a severe operation; but, on the other hand, there are some upon whom the effect would be to deprive them of the means of earning their bread, and, having no resources, would, of necessity, consign them to be inmates of a poor-house for the rest of their days. Here, I think, surgery legitimately offers her powers to relieve. In such a condition of parts I would not excise the joint, but would execute the following operation. I have frequently performed it on the dead body, and a dexterous hand may readily accomplish it in the living. The arm being placed in the same position as that for resection, an incision should be made, about an inch in length, behind the internal condyle, and the ulnar nerve freed from its bed, and drawn forwards with a blunt hook; a second incision should pass outwards to the most prominent part of the external condyle, at right angles with the first, dividing the integuments and ligamentous expansion covering the olecranon. The fine blade of the saw which I use for resection being detached, it should be passed from the extremity of the transverse incision, that is, from without inwards, in front of the condyles and the joint, its flat surface being applied to them; the blade, being sharp at the point, can be readily made to pass along this direction, and by drawing the integuments a little in front of the internal condyle it will appear through the perpendicular incision, or that made in the first instance; the serrated edge may then be turned backwards, the blade connected with its frame, a few movements will sever all resisting parts from before backward, corresponding to the line of the transverse incision through the soft parts; the limb should

then be bent at less than a right angle, and any vessels requiring ligatures must be secured. The after treatment should be exactly in accordance with the rules laid down when speaking of resection. An operation accomplished after this plan is not, I conceive, nearly so serious a measure as excision of the joint; the brachial artery need not be considered in danger, except through undue rashness, and the hopes of a more perfect motion may rationally be expected, when no muscular attachments are divided."

ART. 120.—*A new mode of Excising the Wrist-joint.*
By Mr. BUTCHER, Surgeon to Mercer's Hospital, Dublin.

(*Dublin Quarterly Journal of Medicine*, Nov. 1855.)

After describing some other modes of operating, Mr. Butcher proceeds:

"The operation which I think best suited to those cases is the one which I put in practice myself; it meets every objection which has been urged against the measure; and to which I have already alluded. Mr. Stanley's operation is somewhat similar, but mine is superior, inasmuch as the tendons of the muscles of the thumb are not divided or disturbed from the soft tissues which immediately surround them, and are thereby protected from sloughing and death, so that all the motions of the member in its integrity can be preserved. No doubt, after excision of the wrist-joint and carpus, much motion cannot be expected; a firm fibro-ligamentous structure fills up the place of the removed bones, and fuses the surrounding textures into its dense tissue, and mats all together. But, according to my views, the hand may be retained nearly as useful as ever; the fingers being kept semi-flexed during the process of repair, they retain this position, and the thumb, being preserved perfect in its motions, readily approximates either of the fingers, so that the hand can be applied to its most delicate uses, such as writing, sewing, &c.; as well as to the most severe and commonplace, using implements for husbandry, grasping bodies, &c. I can best enforce this position by reference to a few cases conjointly bearing on the subject."

CASE.—Terence Farrell, æt. 53, a large, powerful, muscular man, by occupation a labourer, was admitted into Mercer's Hospital, February 14th, 1853. He stated that three weeks before, he was finishing some taskwork, violently labouring with a shovel; that he blistered and bruised the palmar aspect of the middle phalanx of the ring finger of his right hand; it was exceedingly painful, yet he continued to work; the pain increased, and also the tenderness and swelling, and for five days he suffered great torture; he stuped and poulticed the part at night, at the same time that he endeavoured to work by day to support his family. The "blister" gave way, and the finger became exquisitely sensitive, and the man was forced to give up his employment, and sought relief from a medical attendant. Now the part was not incised at first; however, it was some time afterwards cut open when the "blister" had given way,—this was eight days after its first commencement. This superficial cutting did not arrest the mischief, which gradually went on until three weeks had expired, when the patient was sent to hospital to be placed under my care. At this

time the hand was enormously swollen, each finger tense, engorged, and more than double its natural size, the thumb alone being exempt from the surrounding mischief. The palm of the hand was hard as a board, tense and unyielding, while its dorsum was puffed up and ready to burst from distension by fluids; but the inflammation did not stop here,—it had passed up the forearm with alarming rapidity to nearly as high as the elbow, seizing with impunity on both aspects of the limb. The engorgement and tension were beyond anything which I had before witnessed, and the deep purple-red discolouration of the parts most alarming. The œdema was so abundant as to totally obliterate the proportions of the forearm, and convert it into a shapeless mass, twice and a half the size of its normal configuration; the pain produced by pressure on any part was severe, and the pitting deep and lasting, the compressed part slowly regaining the surface. The annular ligaments before and behind were sunken, depressed, as if a tight band had been girt around the limb and strangled its vitality. The man upon admission was stricken by the lowest fever; though originally a powerful man, of gigantic proportions, he was totally prostrated and feeble as a child; his pulse was rapid, small, and feeble; his gait tottering; his tongue dry, hard, and brown. Great and constant suffering, perpetual watchfulness and want of sleep, imperfect nourishment from privations by want, stamped the type of the constitutional disturbance purely asthenic. I determined at once upon freely incising the parts, but before attempting to do so, had copious draughts of wine administered. The beneficial effect of the stimulant was soon manifest by the enlarged circulation, the heat disseminated over the body, and the increased confidence arising from resuscitated nervous energy. Two hours after his admission this great and desirable change was brought about, and then I did not hesitate to slit up freely the palmar fascia through its entire extent, observing the cautions which I have elsewhere alluded to.* I likewise freed the fascia over the muscles of the little finger fully to two inches in extent, and also over the anterior surface of the extremity of the metacarpal bone of the index finger; thus the three compartments of the hand, created by the dipping in of the fascia, were each laid open, and all tension taken away. I also laid freely open the fibrous sheath binding down the tendons of the ring finger, as much pain was still referred to this region. The hand being changed into the prone position, I freely incised its dorsum, from which the rush of blood and serum was most copious; and likewise cut through the fascia over the metacarpal bone of the little finger on the same aspect. So much for the hand; the forearm next required attention. Parallel to, and midway between the radial and ulnar arteries, I slit the fascia of the forearm to fully three inches in extent; the evidence of tension relieved was manifest from the edges flying open, leaving a gaping wound, from which gushed out serum and blood; the limb was then plunged in a vessel of warm water, and permitted to bleed until the loaded capillaries were allowed time to disgorge themselves. At the same time attention was bestowed upon the pulse to ensure no ill effects from over-bleeding. Afterwards the entire forearm and hand were enveloped in a linseed-meal poultice; and lastly, the most powerful adjunct, *position*, was favorably ensured, by placing the limb partially flexed, and supported on an inclined plane of pillows, the hand being higher than the chest or centre of circulation; stimulants and opiates were liberally given.

February 15th.—Slept, and great relief from the burning tension of the

* See 'Dublin Medical Press,' July, 1852, "On Wounds of the Palmar Arch, and of the Arteries in the vicinity of the Wrist-Joint."

limb, yet apparently little local amendment; no doubt the coloration of the arm is changed; it is paler, and its volume is slightly lessened; stapes and poultices to be continued; chops, wine, porter, and opiates, freely.

17th.—Pulse slightly intermitting; tongue red, but not dry; slight hiccup; tension greatly lessened on the anterior aspect of limb; rugæ formed; nevertheless, had to incise the fascia on the posterior surface of the forearm, above the wrist, to two inches in extent; imperfect suppuration in the wounds first made; local treatment as before, and constitutional strictly stimulant.

19th.—Much as at last report; pulse occasionally intermitting; tongue red, yet moist. He is able to take animal food; no sickness or tenderness of abdomen; stimulants and opiates as before; stopped poulticing, and applied pledgets of old linen steeped in a solution of chloride of soda, as a wash, made warm,—the fingers and forearm were covered by them; a thin layer of cotton wadding was next put on, and outside all a sheet of oiled silk to prevent evaporation; the limb was again steadied in its elevated position.

21st.—Improved in every respect; pulse has lost its intermission, and gives a full beat; hiccup gone; matter streaming from the wounds; redness, swelling, and tension of hand and forearm nearly gone; applied dressings as at last report; chops, eggs, spirits, and opiates, as before.

23d.—Constitutional symptoms greatly improved; stopped the chloride of soda dressings, the wounds being now healthy, and all increased inflammatory action so totally subdued. I rolled the limb, bandaging each finger separately, padding the hand carefully, and interposing over the wounds lint smeared with zinc ointment; gentle bandage support as far as the elbow; the same position enforced, and the same amount of stimulants, &c., given.

26th.—Had to make a small opening over the posterior surface of the ulna in its lower third.

March 2d.—Another abscess formed about an inch above the wrist, which had to be laid open; continue stimulants, opium, &c.

6th.—Permitted to get up and move about the garden, the limb being supported in a sling.

7th.—Had to lay open another small abscess over the end of the radius.

12th.—Had to open an abscess on the posterior surface of the hand in the cleft between the thumb and index finger, close to their junction with the metacarpal bones; and, to free effectually the parts, had to slit up the thin fascia covering the radial artery in this locality. In every other respect matters rapidly improving; the fingers are a good deal stiffened, but semiflexed, and the motions of the thumb are perfect.

22d.—All sinuses and abscesses obliterated, and wounds healed; and on the 7th of April the patient was dismissed cured, his hand useful for all practical purposes.

ART. 121.—*Importance of saving the soft parts in operations about the ends of the Fingers.* By Mr. BUTCHER, Surgeon to Mercer's Hospital, Dublin.

(*Dublin Quarterly Journal of Medicine*, Nov. 1855.)

“When speaking of excision of the wrist-joint,” says Mr. Butcher, “I have laid great stress upon the advantages accruing from the motions of the thumb being preserved perfect: for the fulfilment of many of its offices it is essential that its length be retained, or nearly so; for instance, in using the pen, pencil, &c., &c.

"Now, when caries or necrosis attacks either of the phalanges or metacarpal bones, or when, from accident, they are disrupted, broken up, irremediably shattered, it is with me a rule to take away the dead or crushed bone, and preserve the soft parts as nearly as possible in their natural configuration, sedulously leaving the flexor and extensor tendons, so that they may contract new attachments to the denser tissue deposited as a substitute for the bone removed."

CASE 1.—T. B., æt. 22 years, admitted to Mercer's Hospital, March 4th, 1854. When oiling a steam-engine, the crank which steadies the shaft broke, and struck the thumb of his right hand, and crushed it against the framework: the third, fourth, and fifth fingers were all considerably lacerated, but the first phalanx of the thumb was smashed in pieces, and split to its ends, while the integuments covering the unguinal phalanx were torn and spoiled a good deal. I saw the patient immediately after being brought to hospital, at 5 p.m.; having carefully examined the lesion, discovered that the flexor and extensor tendons were not torn through, though the broken bone was so extensively comminuted; I had to extend the wound, which lay over the base and outer edge of the broken phalanx, forwards, and through this wound removed the entire bone, leaving the unguinal phalanx with the flexor and extensor tendons attached. At the same time, and through the same wound, I pared off with a strong knife the cartilage of incrustation, covering the ends of the preserved phalanx, as well as that upon the exposed surface of the metacarpal bone. I put a few stitches in the wound, and fixed the finger at its full extension on a splint, and then dressed the torn integuments of the hand. The entire forearm and hand were then steadied upon a splint by a few turns of a bandage. The finger operated upon was cold, particularly at its extremity; to preserve its vitality and create reaction, I wrapped it in lint soaked in oil of turpentine, and then enveloped it and the entire hand in carded wool. The patient was afterwards conveyed to bed, and warm stimulants given, with an opiate.

10 p.m.—Pain had almost subsided, and the finger was of natural temperature: ordered to continue the turpentine dressing and to repeat the anodyne.

March 5th.—He slept quietly, and upon waking had no startings or pain in the hand; finger fully preserves its vitality, being $90\frac{1}{2}$ ° in temperature, while the hand is exalted to 108. To be dressed in the same way as before, and half a grain of muriate of morphia to be taken every fourth hour to allay all nervous irritability.

8th.—Full temperature in the finger, and now perfect sensibility restored to the unguinal phalanx; the wound looks most satisfactory, and the minor lacerations present a healthy aspect.

11th.—The finger was nearly healed, and the patient had the power of slightly flexing it; and on the 12th he left the hospital to attend as an external. This he regularly did for about a month, when the cure was complete. A firm, dense tissue occupied the site of the removed phalanx, and even at this time the power of flexing the unguinal phalanx was nearly complete.

The wound was now healed, and I lost sight of the man for two months, when he called at the hospital to show himself. The distance between the unguinal phalanx and the metacarpal bone was half an inch less than that of the left thumb; in other words, the substituted tissue was less by that quantity than the excised bone; however, this was scarcely appreciable; and though the new structure was not as hard as bone, yet it furnished sufficient resistance for almost the perfect development and exercise of the muscles of the thumb, even when opposed by great resistance; and all the minor and rapid

actions were perfect as ever; the man could use his pen with as much dexterity as before the operation. There are two points which I would strenuously urge as conspiring to the favorable issue of this case: *first*, the restraining of the unguinal phalanx from the end of the metacarpal bone, until the exuded fibrine thrown down in the bed from which the phalanx had been taken acquired sufficient consistence to resist any great amount of shortening; and, *secondly*, when this object was accomplished, removing restraint, and favouring gentle, passive motion.

CASE 2.—John Robinson, aet. 60, a house-smith, admitted to Mercer's Hospital towards the end of July, 1855. *History.*—Six months before his admission he bruised the top of his left thumb when at work; severe inflammation followed, and he went through all the routine of poulticing, stuping-leeching, &c., but with no benefit; after three months' suffering, an abscess, formed on the dorsum behind the nail, and burst, from which matter was constantly flowing; some small bits of bone next came away; this was all very tedious; for months he was idle, being unable to work; a fortnight before his coming to hospital, he attempted some gentle employment, where the hand was not severely engaged, yet after following it for two days, he had to desist; increased and violent pain attacked the finger, inflammation ran along the absorbents, and the glands in the axilla became enlarged; this state lasted for two days, when he came to hospital: then the finger was greatly swollen, the irritated lymphatics were conspicuously present along the entire extremity, and the swollen glands in the armpit painful and exceedingly sensitive to the touch. The patient was greatly prostrated for want of rest and food, his appetite having altogether failed; after some days' suitable treatment this local accession of inflammation was subdued, and the healthy state of the lymphatics and glands restored. When the local and constitutional disturbance was quieted, then came the question of the best mode of dealing with the finger. Upon moving the phalanges in opposite directions, the grating of diseased bone was quite audible; two apertures existed, one behind the nail, the other at the point of the finger, a little below it; on passing a probe into either, the dead bone could be felt. On ascertaining these points, I decided on resection of the diseased bone, and saving the soft parts; the way in which I accomplished this object was the following:

August 10th, 1855.—The man was seated in a chair, and the arm and hand steadily supported in the position of pronation; I made an elliptical incision, corresponding to the phalangeal articulation; the arms of the ellipse embraced the anterior extremity of the first phalanx, while its most convex part lay a little behind the matrix; the flap being dissected back, I opened the joint, and then passed a very narrow sharp-pointed knife along the first phalanx, without perforating in front, and keeping its edge to the surface of the bone, liberated it from the soft parts, and with a dressing forceps then drew it back; I next cleared the projecting end of the second phalanx, and with one of my own fine saws removed its cartilage, with a thin slice of the bone, cutting from before backwards; the vessels divided were far larger than could have been expected, and three of them required ligatures. All bleeding being checked, I brought down the flap and secured it with a few points of suture, and then wrapped strips of lint wetted in cold water around all; they not only kept the parts cool, but likewise afforded a gentle support; the hand and forearm were then steadied on a splint, and the man put to bed.

I did not use chloroform in this case, as the man had an exceedingly feeble heart, besides visible pulsation in all the main arteries, or, in other words, open aortic valves; before the operation a large stimulant was given, and after it wine and opium administered.

10 p.m.—Suffering no pain of any amount; the finger being a little cold, enveloped the hand in cotton wadding: to repeat the opiate.

12th.—Suffering no pain; slept; heat of finger perfectly restored.

15th.—Wound suppurating healthily through the opening of the old sinus included in the flap, while the edges of the wound are united by first intention.

24th.—The wounds inflicted by the knife all healed; only a few drops of matter discharge through the old opening; the part bears handling wonderfully well.

September 5th.—The old sinus entirely obliterated, and now its external aperture is on the point of being healed; he is able to move the finger freely, and allow it to be handled without pain.

7th.—On this morning the patient was dismissed from hospital, the parts being perfectly healed.

22d.—On this day the man called to hospital, as I directed, to show me his hand. His thumb is perfectly firm and capable of holding, with the index finger, the numerous small instruments which his trade requires; had the phalanx been amputated, the finger would be too short for this purpose, and thus the poor fellow, as he feinely asserts himself, would be prevented earning his bread, which he is now enabled to do as well as ever, by this preservative operation in surgery.

The same arguments which have been used to establish the principle of saving the thumb as long as possible will also apply, though in somewhat a minor degree, to the index finger. When the second and third phalanges are diseased, the bones should be exsected by a longitudinal incision, and the soft parts retained as long as possible; in this way the finger may be saved efficient for many useful purposes; the operation is particularly applicable to scriveners, a class of people that earn their livelihood by writing.

Instances are also given where great good resulted from an attention to the same point of practice in regard to the other fingers.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 122.—*Two cases of Amputation at the Hip-joint.*
By Mr. HUMPHREY, Surgeon to Addenbrooke's Hospital, Cambridge.

(*Assoc. Med. Journ.*, Jan. 19, 1856.)

These cases were both successful.

CASE 1. — Burd, aged about 35 years, met with a severe compound fracture of the right thigh, near the middle, from a wheel passing over it. Mr. Welch, of Saffron Walden, who saw him soon after the accident, did not think that the main vessels were injured, but considered the injury of so severe a nature that he recommended amputation. The man would not submit to this. The limb was accordingly done up with splints and bandages. For the first three or four days, though restless, he was thought to be doing well. Soon after this, it became apparent that mortification had set in. The entire limb below the fracture sloughed, and was separated by the efforts of nature, with little assistance from the surgeon. All this took place without much constitutional disturbance. Unfortunately, the sloughing of the skin

extended up the limb higher than the fracture, so that a large uncovered surface was left.

On November 28th, 1854, about six weeks after the accident, I went over to Chesterford to see the patient, at the request of Mr. Welch, who was of opinion that amputation at the hip-joint would be necessary. The bare broken extremity of the bone projected half an inch from the end of the stump: it was surrounded by a great granulating mass, overlying the muscles and other soft parts, which was bounded by the cicatrising edge of the integuments. The latter, for the most part, did not reach to within six inches of the end of the stump. The man, though not unhealthy in appearance, was blanched, and had a quick pulse. He took a large quantity of nutriment, meat, wine, porter, &c.; digested it well, and seemed to thrive upon it. The granulations looked healthy. The stump was large in comparison with the corresponding part of the other thigh, but was not tender; and he could move it at the hip.

The discharge was considerable. It was scarcely to be expected that the health would long hold out under such circumstances. There was little hope of cicatrisation proceeding over this extensive surface, so as to close the stump: already it was advancing less actively than it had done. The patient was anxious that something should be attempted to secure the healing of the part and willing to submit to any measure that we should propose. I agreed with Mr. Welch that it would be the best plan to remove the part at the hip-joint, as this was the surest means of obtaining a sufficient covering of integument. Moreover, the operation in that situation could be performed more quickly than through the upper part of the thigh bone; and the risk from hemorrhage, which constituted one of the great dangers in the feeble state of the patient, would be diminished proportionately, or nearly so. Accordingly, on December 17th, I went to the patient's house, and removed the stump at the hip-joint. Dr. Webster administered the chloroform; and Mr. Welch, Mr. Bailey, and Mr. Carver, rendered such efficient assistance, that very little, not above four or six ounces, of blood was lost. We placed the patient with his hips projecting beyond the edge of the table. The horse-shoe tourniquet was applied, with one pad upon the external iliac artery; the other upon the back of the ilium, so as not to be in the way of the incisions. This, being tightened and held in its place, prevented the flow of blood through the artery. The stump was raised a little; the point of the knife was inserted an inch below the spine of the ilium, passed across the hip-joint, and protruded a little below and to the side of the anus. The inner flap was then cut by carrying the knife downwards and inwards. Mr. Welch followed the knife with his fingers, grasped the artery between the fingers and thumb, and raised the flap. The hip-joint had been opened, and the head of the thigh-bone exposed by this first cut. A little further division of the capsule enabled Mr. Carver, by rotating the stump, to throw the head of the femur from its socket; enough to expose the ligamentum teres, which was divided, and the bone completely dislocated. The hinder part of the capsule, and the tendons running to the digital fossa, were then cut, so as to allow the knife to pass behind the great trochanter, when the flap from the buttock was quickly formed. During this time, one gentleman with a sponge pressed upon the lower part of the anterior flap, so as to prevent bleeding from the obturator and other arteries; while another, kneeling in front of the patient, followed the knife with a sponge behind the trochanter, so as to compress the gluteal and ischiatic vessels. In this way the hemorrhage was almost entirely prevented, and we were able to proceed at leisure to tie the vessels, taking those upon either flap which first bled as

they were uncovered. The femoral was about the fifth tied; the sciatic bled briskly when uncovered; the gluteal less than I expected. We took great pains to secure the vessels in the immediate neighbourhood of the acetabulum, the neglect of which has been the cause of fatal hemorrhage in other cases. Forty-three ligatures were applied. The patient was now rather faint, so we covered up the wounds for half an hour, when he became warm, and his pulse good: and, as there was no bleeding, the edges of the flaps were approximated by sutures. A pad was placed under the hinder flap, and secured there by a bandage passed round the pelvis.

Two hours after the operation his pulse was good. There was some disposition to sickness, attributable probably to the chloroform; this continued for two days, and subsided gradually. The progress of the case, under the management of Mr. Welch, was most satisfactory. Partial union took place by first intention. Some dirty fetid pus, tinged with blood, was discharged after a few days: this soon ceased, and nothing occurred to interfere with the speedy and complete union of the flaps. I heard a few weeks ago that he was quite well and strong.

CASE 2.—Richard Fuller, *æt.* 27, a healthy man, blanched and thinned by confinement and disease, was admitted into the hospital June 23d, 1855, with an ulcer as large as a cheese-plate on the outer side of the left thigh; its upper edge being four or five inches below the trochanter. It was flat, with a coarsely granular surface, which presented a red colour, interspersed with small whitish spots. The discharge was thin and bloody; the edge smooth, not everted or raised, but decidedly indurated. At the middle was a deep depression, extending down to or into the thigh bone. Sixteen years previously, he suffered a severe injury at this part by a thrashing machine; the skin being, he said, torn up a great way, and the ulcer left was a very long time in healing. It appears, however, to have done so quite soundly. A year ago he thought he hurt the cicatrix, by chafing it with a sack of beans he was carrying. At any rate, about that time a sore commenced, which had been gradually increasing up to the time of his admission. There was no enlargement of the inguinal glands.

The ulcer presented the general characters of a cancerous or epithelial disease, and the cursory examination made upon his admission left on my mind no doubt of that being its nature. On the morning of the 25th, I found him agonised by most painful and severe cramps in the thigh, which had come on during the night, and were evidently caused by the giving way of the bone at the part where the ulcer extended down to it. Upon the gentlest handling of the limb the muscles were thrown into action, and he shrieked out with pain. We determined, therefore, at once to remove the limb, through the upper part of the thigh bone, and to extend the operation if it should seem desirable. As the ulcer reached high up on the fore part of the thigh, and the cicatrix higher still, it was necessary to make the incisions very close to the pelvis, especially in front. The pad of the horse-shoe tourniquet was placed above Poupart's ligament. Thrusting the knife from the outer side, a little below the great trochanter, I cut a short flap from the fore-part, and then made a longer one behind, sawed through the bone, and tied the vessels. We next examined the thigh-bone. At the middle it was quite destroyed; its place being occupied for about two inches by a firm white cancerous mass. A section of the bone showed the disease extending some distance up the interior. It was not certain at what part the disease ceased; for in places, above its apparent termination, were spots in which a white soft substance has been infiltrated between the separated laminæ of the bone. In its whole length the wall of the shaft seemed to be more porous and vascular than

natural; a condition which is not uncommonly met with when part of a bone is the seat of cancer. In the knee-joint we found the cartilage removed, in an irregular and remarkable manner, from the inner side of the outer condyle. The bone thus exposed, though smooth and covered by synovial membrane, looked dark. It was evident, therefore, that no part of the thigh-bone which had been removed was in a very sound state; and my colleagues, Mr. Lestourgeon and Mr. Hammond, agreed with me that it would be the best plan to take out the remainder, now that it could be so easily done. Accordingly, with a long scalpel I carried the incision along the front of the bone to the joint, cut through the fore part and sides of the capsule, and, grasping the end of the bone with the strong forceps made for such purposes, turned the head out of the socket. Having divided the ligamentum teres and hinder part of the capsule, I carried the amputating knife behind the bone, and cut outwards through the posterior flap already made, so as to reduce it to proper dimensions. There was some difficulty in securing the gluteal artery. By the time the operation was done, the man was very faint; for a time pulseless. However, he gradually revived. We took great pains to secure the vessels sufficiently, and waited some minutes to see if there was any bleeding. The flaps were united by sutures, and supported by a bandage, with a pad on the lower one.

No unfavorable symptom occurred till the fifth day after the operation, when hemorrhage took place. The blood flowed quickly, but stopped when Mr. Carver, the house-surgeon, who was quickly upon the spot, compressed the femoral artery. Mr. Lestourgeon and Mr. Hammond were summoned in my absence. They opened the stump and found a good deal of blood and pus. The bleeding had then ceased; and, being unable to discover its source, they left the stump open, with some lint in it. The patient was very faint, and the prospect by no means bright. However the next morning he had rallied. Suppuration took place; the lint came away after a time; no further bleeding and no other unfavorable symptom occurred; the wound slowly healed, and the patient was discharged cured in September.

January 11th, 1856.—The Rev. Mr. Mortlock, in whose parish he lives, writes me word that he is in full health and activity.

ART. 123.—*An improvement of “Butcher’s Splint for Fractures of the Thigh-Bone.”* By Mr. BUTCHER, Surgeon to Mercer’s Hospital.

(Dublin Quarterly Journal of Medicine, Feb., 1856.)

“Since the period when I wrote my Memoir ‘On the Treatment of Fractures of the Femur,’ published in the Dublin Quarterly Journal of Medicine for February, 1853, I have had frequent opportunities of employing the splint which I then recommended, and testing its efficacy in numerous instances, both in hospital and private practice, additional to the weight of evidence cited in the original paper. Complicated and varied have been the conditions and positions of the fractures in which it has been used, yet efficient has it been found in every requirement and emergency to achieve similar successes. It is absolutely essential to follow the minute directions which I have laid down for its perfect adjustment. Indeed, the splint is so well known now, and its advantages admitted by the profession, that I only advert to it, to make mention of a simple alteration which I have made in the mode of liberating the cylinder at the end of the screw from the

transverse piece of wood in which it rests. By the former arrangement a nut and washer steadied it below, and after the splint was applied; and when it was found requisite to change the apparatus, the limb and splint had to be lifted 'en masse' from the bed, and that to a considerable height, to allow the application of a turnscrew to the binding nut beneath. Now this entailed much unnecessary disturbance of the limb, and constrained exertion and stooping on the part of the surgeon. To obviate, then, these inconveniences, the arrangement is as follows:—

"The cylinder has cut in its circumference, about the centre, a groove a line and a half in depth, and two in width; through the side of the transverse piece of wood corresponding to this point, a screw is brought to bear, which prevents any upward or downward motion, while it admits freely all circular movement; thus it follows by a few turns the cylinder may be steadied or left at liberty in its socket. Though trifling this new arrangement may appear to some, yet by those practically engaged at their profession—by men, who, from experience, are cognizant of the difficulties encountered in the management of fractures of the thigh bone, any additional improvement in changing the apparatus that shall conduce to the maintenance of a more steady and quiescent position of the limb will, I have no doubt, be duly appreciated, and hailed with satisfaction."

ART. 124.—*Two suggestions respecting Excision of the Knee-Joint.*
By JONATHAN HUTCHINSON, Esq., Surgeon to the Metropolitan Free Hospital.

(*Medical Times and Gazette*, March 15, 1856.)

"In an excision of the knee-joint which I had occasion to perform the other day," writes Mr. Hutchinson, "it was my intention to have adopted two precautionary expedients, which, as far as I am aware, have not hitherto been either practised or suggested. On cutting away its condyles the femur was, however, found so extensively diseased, that amputation was necessary, and I consequently lost the opportunity hoped for of testing the practical value of the measures referred to. Under these circumstances I am induced, although untried, to bring them before the attention of surgeons, being more especially encouraged to do so by the high opinion as to their importance, which has been expressed to me by several authorities to whom they have been mentioned. The first is the *division of the hamstring tendons*, by which I should hope to prevent that repeated displacement of the bones which is often so very difficult to obviate in the after-treatment, and is the source, when it occurs, of so much suffering to the patient. By thus putting the tibia completely at rest there could be no doubt but that apposition would be easily obtained and preserved, and that all risk of non-union would be done away with. The second is the *making of an opening into the popliteal space*. An excision of the knee-joint differs from all other operations of its class, in that it provides no direct escape for the matter secreted in the subsequent stage of suppuration. In several cases which I have

seen, the greatest inconvenience was produced by the bagging of the pus into the depending part of the large wound. It often burrows among the muscles, and requires counter-openings, in various directions, for its removal. All this I would endeavour to prevent by making a free depending opening by the side of the tendon of the popliteus, at the time of the operation. A circumstance strongly indicating the desirability of such a practice, and which, in fact, first suggested it to me is, that in several of the cases which have done best after excision of the knee, a sinus into the popliteal space existed prior to the operation."

ART. 125.—Three cases of Excision of the Knee-joint.

By Mr. HUMPHREY, Surgeon to Addenbrooke's Hospital, Cambridge.

(*Assoc. Med. Journ.*, Feb. 9, 1856.)

Among other remarks upon these cases, Mr. Humphrey says, "The object of the operation being to lead to a solid union between the tibia and femur—in short, to reduce them to one bone—there cannot be any great advantage gained by leaving the patella. The attempt to do so must render the operation more difficult, as it did in Case 1. Moreover, it seems probable that the presence of the patella after the operation, by covering in the front of the wound, and preventing the free escape of purulent matter and other fluids, may do harm."

The cases are these :

CASE 1.—Eliza Hobbs, æt. 20, a light-complexioned, not very healthy-looking person, had suffered from disease of the left knee for more than six years. The synovial membrane was first affected, and subsequently the other structures of the joint. She was under my care in the hospital three years ago, when the disease was so severe that we feared amputation might be necessary. However, it gradually fell into a quiet state, and she went to her home to wait the effect of time. She returned in October, 1854, with her general health improved. But the lower limb was useless, indeed burthensome ; for though the disease in the knee had ceased, and the swelling had subsided, the joint was left in so mutilated and impaired a state that she could not bear upon the limb, or move the leg upon the thigh, or even lift it from the bed. Passive movements could be effected in a limited range, but these gave pain. The patella was fixed ; the whole extremity flabby, though not much smaller than the other. There was little hope of the limb being brought into a useful state by any ordinary treatment, because some displacement of the ends of the bones had taken place, causing deformity of the limb. The inner condyle of the femur projected on the inside of the knee, and could be felt to be knotty from bony deposit upon it. The leg was inclined outwards from the knee to the ankle, forming an obtuse angle with the thigh. It was also a little bent and rotated outwards. I contemplated amputation, but the girl was very anxious that some attempt should be made to save the limb. My cousin, Mr. Frederick Humphrey, now practising at Brighton, was going round the hospital with me and saw this patient. He told me that he had seen good results from excision of the knee, and recommended me to try it in this case. Having thought over the matter, I proposed the operation to my colleagues, who agreed in thinking it worth while to give the operation a trial in

a case of this kind, although they, like myself, were not much prepossessed in its favour.

October 27th.—I made a transverse incision over the patella, more than half round the joint, and short cuts upwards and downwards at right angles to it at either end; reflected the flaps thus made, and cut into the knee-joint, dividing the lateral ligaments. The patella had acquired close connections with the outer condyle; and in the endeavour to separate it, and press it on the outside of the joint, with a view of saving it, the ligamentum patellæ was torn up from the head of the tibia. I thought it best, therefore, to remove the bone. The joint was then bent, the adhesions between the bones, which were of fibrous nature, and the crucial ligaments being at the same time divided with the scalpel. The ends of the bones being now sufficiently uncovered, I sawed about three-quarters of an inch off the condyles of the femur, and a thinner slice from the tibia. Placing the cut surfaces together, I found that the leg was inclined a little outwards. This was rectified by sawing off another thin oblique slice from the inner part of the cut surfaces of the bones. Some of the articular arteries required ligatures. Finally, the limb was bandaged upon a straight splint, with a pad under the head of the tibia to raise it; and proper apposition was secured by the pressure of broad lateral splints.

No unfavorable symptom followed. Not the slightest fever, and scarcely any inflammation at the knee. The discharge found its way through the bandages, which I seldom disturbed—not more than once in a fortnight or three weeks. In January, the wound being healed all but one small orifice, and the union of the bones being tolerably firm, the limb was encased in a gum-chalk bandage, and the patient went home. In September she returned, the part having been painful and inflamed. There was a sinus extending three or four inches up the fore part of the thigh. This I laid open in its whole length, but could discover no evidence of diseased or exposed bone. The wound healed up, and she again went home. There was pretty firm osseous union between the bones, and every probability of her being able to walk upon the limb.

CASE 2.—Edward Wells, æt. 47, was admitted April 19th, 1855. He was a native of Barbadoes, and a sailor. He broke his right patella transversely by a fall upon the deck six months ago, the knee coming in contact with an iron ring. He was taken ashore and treated in the hospital of Rio Janeiro. In three weeks, as his vessel was about to sail, he got up with crutch and stick, and went on board. No medical treatment could be there obtained, and he continued to go about with a crutch. Subsequently, he sought relief in various places; but finding none, and the limb being useless, he came into the hospital for the purpose of having it removed. The fragments of the patella were four inches apart. The lower one was a little nearer to the tuber tibiae than natural; the upper one lying above the condyles of the femur. There appeared to be no direct connecting medium at all, the articular surface of the femur lying immediately under the skin. He could bend the leg, but had no power whatever to extend it; consequently, walked with a crutch and stick, scarcely using the right leg. Examining the left patella, I found that it also had been broken across, the fragments being moveable upon one another, though in close contact. This was caused by a fall on the slippery deck, fourteen years ago. The knee was cupped and bound up for a fortnight; after which he went about, the joint feeling only weak for a time. Of late years he had felt no inconvenience from it, and was not aware that the knee-cap had ever been broken.

I had an apparatus constructed for the purpose of fixing the limb in a straight position, hoping that he would be able to walk with this assistance,

and that gradually the part might acquire more strength. However, the upper fragment of the patella and the adjacent part of the thigh was so tender, that it would bear no pressure, and he became very impatient for some more decided treatment. Accordingly, I proposed to excise the joint, which, being agreed to by my colleagues, and assented to very willingly by the patient, was done on May 4th.

It being desirable to remove the fragments of the patella, which could be of no use if left, and which might interfere with the after treatment, I determined to make crucial incisions, instead of those practised on the former occasion. The first was transverse, more than half way round the joint, over the interval between the tibia and fibula. This was crossed by a longitudinal cut from the upper edge of the superior fragment of the patella to the lower edge of the inferior. The four angular flaps thus marked out were reflected, and the two fragments of the patella were dissected away. In doing this I found that both the latter were quite shut out from the cavity of the joint. The hinder and lower surfaces of the upper one were connected by tough fibrous tissue to the fore part of the femur, above the condyles, and there was no tissue at all constituting a direct medium of communication between the fragments. It would have been hopeless, therefore, to have made any attempts by treatment to enable the quadriceps to act upon the *tendo patellæ*. Having removed the fat from the front of the joint, and divided the lateral and crucial ligaments, I sawed off nearly three-quarters of an inch of the condyles of the femur, and a thin slice of the upper end of the tibia. The bones were secured in good position by splints behind and on either side, well padded, as in the last case.

No unfavorable symptoms followed. Suppuration took place; and, after a time, the discharge gradually diminished. On June 19th, the wound was nearly healed, and there was pretty firm union between the bones, though he could not raise the limb from the bed. On September 21st, the wound had long been soundly healed, and the bones firmly united. He could raise the limb from the bed, and bear some weight upon it; could move about very well with crutches, and there was every probability of his being soon able to walk without them. On this day he left the hospital, and I have heard no more of him.

CASE 3.—William Childs, æt. 12, a pale, but not unhealthy child, was admitted with the knee bent to a right angle. Indented cicatrices of sinuses, which had evidently extended deeply, told of former serious disease. At the present, all acute symptoms had passed away; there was no swelling, and no pain; but the joint had been destroyed; no movement could be effected, and the limb was rendered quite useless by the contraction. I first determined to try whether the joint could be brought into better position without any operation. Accordingly, when he was under the influence of chloroform, extension was commenced steadily and carefully. I found that the joint yielded without much difficulty; and, having straightened it, we fixed it upon a splint bound to its hinder part. Having been kept thus for several weeks, it was done up in gum-chalk bandage, and he was allowed to bear upon it a little. The progress, however, was not satisfactory. The joint gained no strength. The limb was quite unable to bear the weight of the body. No movement could be effected. There was some swelling and tenderness. The contraction began to recur, and it was evident that the limb would remain a useless one, unless some more decided treatment were adopted. It appeared a favorable case for excision, which I performed August 31st, 1855. The external incisions were crucial, as in the last case. The patella was firmly ankylosed to the femur, and was accordingly left. The tibia and femur were united by

firm fibrous tissue, which was partly divided by the knife, partly torn in flexing the joint. A small portion of each bone was removed, and the limb placed in a straight position, supported by splints.

The operation was not followed by any febrile disturbance or bad symptom. Suppuration took place in the usual manner, and subsided as the healing of the wound went on. The latter process was completed in little more than a month, and in about two months there was firm union between the bones. A gum-chalk bandage was applied, and he went home.

ART. 126.—*Two cases of Excision of the Knee-joint.*

By Mr. PETER BROTHERSTON, of Alloa.

(*Edinburgh Medical Journal*, April, 1856.)

These cases are as follow :

CASE 1.—Robert Strang, æt. 10, son of a collier residing in Clackmannan, has had strumous disease of the left knee-joint for two years. The leg is slightly flexed, the joint very much enlarged, and an ulcerated opening, about half an inch in diameter, over the inside of the joint. A probe, introduced into this opening, and pushed backwards, enters the joint. He has continual pain, aggravated on motion, and the discharge is very considerable. The boy is pale and emaciated, and has a quick pulse, of about 120. Having stated to the parents that an effort should be made to save the leg, and explaining to them the nature of the operation for excision of the knee-joint, they at once consented to have the operation performed without delay. I wrote to my friend, Dr. James Gillespie of Edinburgh, requesting his assistance in this case, he having assisted the late Dr. Richard Mackenzie in his previous cases at the Royal Infirmary; and, accordingly, on the 19th May, 1854, I performed the operation as follows: the boy being put under the influence of chloroform, I made a free incision across the front of the knee-joint, below the patella, from a little above the posterior edge of the inner tuberosity of the tibia, across to the posterior edge of the outer tuberosity; and having divided the lateral and crucial ligaments, I proceeded to separate the connection round the condyles of the femur, which being done, about three quarters of an inch of the condyles were sawn off. A slice of about one third of an inch in thickness was then taken from the head of the tibia, and the cartilage was removed from the inner surface of the patella by means of a gouge. Four arteries required ligature. The ends of the bones were then placed in accurate apposition, and the wound was closed with seven sutures. A splint, covered with lint, was applied to the ham, and the whole secured with a bandage.

It is needless to give a detailed account of this case; but, I may remark, that in seven months, complete ankylosis of the bones had taken place, and the boy could walk with freedom. There were two or three sores in the neighbourhood of the incision; but they were superficial and unconnected with the bone.

CASE 2.—The progress and cure of the case just related was anxiously watched by a gentleman in Alloa, whose son, eleven years of age, was labouring under acute synovitis and ulceration of the cartilages of the right knee. From seeing the case of the boy Strang progress so favorably, he asked me if a similar operation might not save his son's limb; and on being told that the case was a remarkably favorable one for the operation, he at once consented to have it done. I may state there was urgent necessity for this operation, or amputation being immediately performed. The extreme paroxysms of pain

which came on whenever the boy attempted to sleep, caused by the ulceration of the cartilage being brought in contact with the opposing bone during sleep, when the natural control of the limb was lost, and his state of nervous debility, showed that he could not have borne up longer under the source of irritation. There was no other external ulceration, except a sinuous opening in the ham, which discharged a quantity of matter. I was assisted again by my friend, Dr. James Gillespie, and the operation was performed on the 12th January, 1855, in every way similar to the former case.

There was a considerable quantity of pus in the joint, and distinct ulceration of the cartilage on the condyles of the femur and head of the tibia. The incision, nearly all healed by the first intention, and everything went on favorably till about the beginning of March, when an abscess begun to form on the outside of the thigh, a little above the seat of the operation. This I opened on the 28th of March, and shortly afterwards the abscess gradually closed, and finally healed altogether. It is now eleven months since the operation was performed, and the limb is fairly ankylosed. All swelling has disappeared, and the limb is as straight as its fellow, and only an inch shorter. The patella is found slightly moveable, a little above its former seat, and he can walk with a firm decided step, without a crutch, although he uses one at present, by my orders, to save the limb.

I may mention here the great benefit I found from the use of sand bags, recommended me by Dr. Richard Mackenzie, laid on each side of the leg, along the sides of the joint, and fastened with two bits of tape, one above and another below the knee. They served admirably to keep the bones in accurate apposition, and, from their weight, kept the leg *in situ*, especially preventing its movement during sleep.

ART. 127.—*On the real origin of Varicose Veins in the lower extremities.* By M. VERNEUIL.

(*American Quart. Jour. of Med. Science*, Jan., 1856.)

M. Verneuil lately read a paper before the Academy of Medicine of Paris, on the above subject, in which he endeavoured to make out the following points :

1. Whenever varicose veins, which have sprung up spontaneously, are observed on the lower extremity, there are deep veins similarly affected in the corresponding part of the same limb.
2. The converse, however, does not hold, for the inter- or intra-muscular veins may be found dilated, without any change having taken place in the superficial vessels. But when the deep veins alone are found in an exposed state, it is almost certain that sooner or later the superficial ones will in their turn swell, become tortuous, and very apparent under the skin.
3. The varicose state of the veins of the lower extremity, as it is usually seen, does not primarily arise from the subcutaneous vessels (the internal saphena not excepted), but generally from the dilatation of the deep veins, and most often from the muscular veins of the calf of the leg! The deep veins are first affected with valvular inefficiency and dilatation, and these two lesions then spread to the super-aponeurotic branches of the second and third order.
4. This succession of phenomena is not only made manifest by

simple dissection, but also by a careful study of the special arrangement of the venous system of the lower extremity.

5. These facts, which may be looked upon as a new discovery, throw much light on the whole subject of varicose veins of the lower extremities. The etiology and symptoms of the affection are thus elucidated, and this circumstance allows of a more rational choice of therapeutical means.

6. The mechanism of relapses will henceforth be more easily understood; for it must be confessed that the obstinate return of the complaint, which experience shows to be so frequent, has been explained more by a train of reasoning than by direct demonstration.

ART. 128.—*On Amputation of the Ankle-joint.*

By Mr. PEMBERTON, Surgeon to the General Hospital at Birmingham.

(*Assoc. Med. Journal*, April 19 and 26, 1856.)

After referring to other modes of operating, Mr. Pemberton describes the mode adopted by himself: "A semilunar incision is made across the front of the joint, commencing at the centre of the extremity of either the external or internal malleolus, according as the right or left foot is operated on, and terminating at a corresponding point on the opposite side. The convexity of this incision is directed to the toes, and it should only divide the integuments. From the malleolus, at which the knife terminated its course a second incision is carried downwards deeply and forcibly through everything to the bone, across the sole of the foot, in a direction exactly in a line corresponding to the malleolar projections, and terminating at the commencement of the first. The foot being firmly grasped by the left hand, a sweep of the knife divides the remaining tissues, including the external, anterior, and internal ligaments of the ankle-joint, and exposes the articular surface of the astragalus. The flap is now dissected from the os calcis from above downwards, attention being directed to separate the soft parts from the bone in the middle line first, until the insertion of the tendo Achillis is fairly divided. This accomplished, the lateral attachments to the os calcis are easily separated, a strong grasp of the foot enabling the operator unaided to give the requisite degree of tension to the parts he is dividing in any direction at pleasure. During all this, the edge of the knife must be directed so as to cut on the bone, and the hollow of the calcaneum on the inner side must be borne in mind in reference to the preservation of the posterior tibial artery. Lastly, one turn of the knife is carried round the extremities of the tibia and fibula, and their malleolar projections are sawn off sufficiently high to include the removal of the intermediate cartilaginous surface.

"In a recent case, in which I performed this operation, I changed the order and direction in which I had been in the habit of detaching the flap from the os calcis, following more particularly the method which I believe Mr. Syme himself adopts—namely, that of dissecting it from below upwards.

"I certainly found no difficulty in pursuing this method; but I cannot say that I found any additional facility, so as to lead me to adopt it again. An awkwardness appearing to arise from having to turn the patient partially on the side, in order to twist the sole of the foot uppermost.

"It will be noticed that in the method of operating described, the foot had been disarticulated before the malleolar projections have been removed. Mr. Birkett ('Lancet,' 1854, vol. ii, p. 456), after having completed the dissection of his flaps, applies the saw to the extremities of the tibia and fibula, and removes them, together with the thin slice of the articular extremity of the tibia, without opening the cavity of the joint. This modification appears to me to be particularly applicable to those cases in which there is reason to suspect the existence of disease in the extremity of the tibia. Two sutures should be inserted to retain the flaps in contact: a single strip of adhesive plaster, a piece of wetted lint, and a light roller, completing the dressings.

"On the second day, I am in the habit of removing the sutures and the dressings, in order to allay the swelling, which always arises in the lightest dressed stumps; and which, if allowed to continue unrelieved for even another day, is certain to produce irritation. Subsequently, so far as the stump is concerned, there is but one point to keep in view, in order to avoid unpleasant complications. Let there be no pressure applied to the flap. Let it simply be retained in apposition by the gentlest means possible. This can easily be done, as the flap is most tractable, and not at all like the unyielding mass that is necessarily obtained in a Chopart's amputation.

"By attending to this, all danger of bagging of matter, so far as my experience has taught me, will be avoided, and the healing process will go on with wonderful rapidity. I have never once had occasion to relieve any collection of matter in the pad of the heel, or indeed in any other part of a stump formed in this operation. In no instance have I obtained or desired "union by first intention." Care has, however, been taken to obtain an accurate apposition of flaps in the first instance without straining, so as to admit of a free escape of discharge; at the same time that every endeavour must be made to prevent the least gaping of the wound, in order that the line of granular union may not exceed the width of a few lines."

Mr. Pemberton then relates four cases in illustration of what he has previously advanced, and he concludes his paper by giving a table of the operations performed in the General Hospital at Birmingham since 1851. The table is this:

Age.	Sex.	Primary.	Secondary.	Time.	Result.
24	F.	...	Secondary.	6 weeks.	Cured.
29	F.	...	Secondary.	6 weeks.	Cured.
12	M.	...	Secondary.	10 weeks.	Cured.
33	F.	...	Secondary.	9 weeks.	Cured.
26	M.	...	Secondary.	3 months.	Cured.
13	M.	...	Secondary.	5 weeks.	Cured.
27	M.	Primary.	...	17 days.	Died.
19	M.	Primary.	...	8 weeks.	Cured.
18	F.	...	Secondary.	6 weeks.	Cured.
1	F.	...	Secondary.	7 weeks.	Cured.
18	M.	...	Secondary.	6 weeks.	Cured.
39	M.	...	Secondary.	3 months.	Cured.
14	M.	...	Secondary.	7 weeks.	Cured.
24	M.	...	Secondary.	8 weeks.	Nearly well.

ART. 129.—*On Amputation of the Foot at the Ankle-joint.*
By Mr. HENRY THOMPSON, Surgeon to the St. Marylebone Infirmary.

(*Medical Times and Gazette*, Feb. 23, 1856.)

At a meeting as the Medical Society of London, held on February 16th, Mr. Thompson read a paper on this subject, illustrating his remarks by a patient upon whom he had performed this operation a short time previously. The following gives a concise view of the chief points to which he directed the attention of the Society, commencing with a brief outline of the history of the patient. A girl, æt. 10, had suffered from caries of the tarsus and metatarsus, during rather more than four years, for the greater part of which time she had resided at Margate for her health. The disease becoming confirmed and spreading, Mr. Thompson decided to remove the foot at the ankle-joint. A considerable portion of the flaps healed by the first intention, and the wound was soundly cicatrized, and the stump firm, in six weeks from the date of the operation. Mr. Thompson attributed the excellent result of this operation to the adoption of a certain mode of performing it, which involved the following as its chief points, the neglect of which is liable to produce tedious suppuration, a sloughing, or unsoundness of the flap:—1st. The division of the posterior tibial artery should be made as low down as possible in the flap; a point admitted on all hands. 2d. Care must be taken not to inflict injury upon the heel-flap, either by the knife, or by the forcibly handling it during the operation. 3d. The lower incision, with which the operation commences, should take its origin not at the centre of the lower margin of the malleolus externus, but somewhat behind that point, should be carried obliquely backwards, to the posterior part of the heel, and be concluded at a corresponding point below the inner malleolus. The heel-flap is thus far less hollow in form than that which is ordinarily made. The objections to the cup-shaped

heel-flap are, the impossibility, from its form of union, occurring between it and the upper part of the wound by the first intention ; its liability to become a receptacle for blood or purulent matter, and to lose part of its substance by sloughing. The author stated, that he had adopted this plan with a most rapidly successful result, on the recommendation of Mr. Syme, who appears to have been led, by the result of his experience, to carry the lower incision further back than he did at the period when he first performed the operation. It was not to be lost sight of, moreover, that the operation was easier of performance by this method. The paper was illustrated by diagrams of the foot, showing the lines of incision described.

ART. 130.—*Sequel to a case of Luxation downwards and backwards of the third internal Metatarsal Bone.* By Mr. JOLLIFFE TUFNELL, Surgeon to the City of Dublin Hospital.

(*Dublin Quarterly Journal of Medical Science*, Nov., 1855.)

This case is related in a former volume XIX, p. 185. The sequel is thus related :

“ From July, 1852, to the same month of the present year, I saw no more of the case. I now heard that he had re-enlisted, and was serving in one of the smartest infantry regiments in the service. I was certainly surprised, and doubted the correctness of the statement, but the man having been sent on duty to Ireland, he called upon me to exhibit his foot, and show the alteration that had taken place. Its form had now considerably changed. It had become almost natural in appearance. The relative measurements of the injured member, as compared with its state six months after the accident, were the following. The length of the foot had increased half an inch. The breadth round the basis of the toes three quarters of an inch, and its girth round the instep had also similarly increased, the whole foot, in fact, having become developed and spread out. The most striking changes, obvious to the eye, were the removal of the sharp angular prominence formed by the anterior edge of the tarsal bones, and the absence of the projection formerly caused by the head of the metatarsal bone of the great toe in the sole. The heel, too, had become flattened and wider by half an inch.

“ The full use of the extremity was now regained ; he could walk and run with scarcely any perceptible halt. The statement which he gave of the progress of his case was this. For nine months after the accident he used crutches for comfort, although he *could* walk supported by a stick. During the succeeding eighteen months he was crippled, but took exercise daily for some hours, hobbling along with a stick, using the douche night and morning, and having the foot regularly rubbed. He now threw away the stick, and drilled himself into walking alone, increasing the distance until he could go four or five miles at a stretch. In October, 1854, he felt so far recovered that he thought he could re-enlist, which he did, joining his depot at Chatham,

going through the ordinary drill, and marching in heavy marching order for two miles.

"I saw him in July following, that is, three years and a half from the time that the accident occurred. He now could walk perfectly well, run and jump with both feet, but he could not hop on the injured leg; the instant he was directed to do so, he made the effort, then hesitated and declined, feeling, as he said, the wish, but being unable to move. He wore very thick and clumsy-looking boots, which he said he did purposely, for he found in them both confidence and support, whilst with a light shoe, or in his stockings, he could do comparatively little, for he then threw the weight of his body on the outer border of the foot.

"I have been thus particular in describing the progress of this case, because I consider it probable that any *similar* dislocation will, as in this instance, remain unreduced,* and the knowledge of its favorable termination may be useful in reference to future prognosis. Nowhere, I think, could the efforts of Nature, in her power of removing impediments by absorption, be more beautifully exemplified than here, whilst at the same time I have no doubt that recovery was greatly assisted by the steady perseverance of the patient in following the directions given him to use the tepid or cold douche twice a day, followed by hand-rubbing the foot, and taking as much exercise as he could without producing heat or pain."

ART. 131.—*On certain Affections of the Feet.* By M. NELATON.

(*Gazette des Hôpitaux*, Nos. 97, 98; and *Medical Times and Gazette*, March 15, 1856.)

M. Nelaton recently ('Gaz. des Hôp.', No. xcvi), called the attention of his class to a singular deviation of the toes, especially of the great toe, not infrequently met with in the aged, but undescribed in books. It is principally met with in persons pursuing laborious occupations, and in the indigent who are ill-shod. It offers different characters. In some, the great toe is carried outward to such a degree that the projection of the first metatarsus is covered only with the integuments, in place of corresponding to the surface of the phalanx. Instead of being carried to the side of the other toes, the great toe may mount above them and form a right angle with the first metatarsus. At other times, the toe may pass below in place of above, and become lodged in the furrow corresponding to the metatarso-phalangean articulations. M. Nélaton believes that the deviation arises from retraction of the extensor muscle of the great toe, and before the deviation takes place the tendon of the extensor presents a corded appearance. At the same time there is retraction of the extensor tendon of the four neighbouring toes, which do not become luxated outwards, but are curved upon themselves. Not only is this disposition of parts a great impediment to walking, but it

* Because the proximal end of the metatarsal bone of the great toe becomes immovably fixed behind the tuberosity of the internal cuneiform bone, wedged in the cavity which exists between it and the cuboid bone, locked in the hollow of the tarsal arch.

may give rise to irritation and perforation of the integuments by the metatarsal bone. When the patient is not much advanced in age, and the luxation is incomplete, the tendon of the extensor tendon of the great toe should be divided subcutaneously, and the ends kept apart while cicatrizing. In the case of the present old man such an operation would be useless. The extremities of the bone being deformed, and the phalangeal surface obliterated, the reduction of the toe would be impossible, and all that can be done is to order him a shoe suited to the deformity.

Another affection, which from time to time is witnessed at the Paris *clinique*, and known under the title of *perforating disease of the foot*, forms the subject of a thesis by M. Leplat ('Gaz. Hôp.,' No. cxvii), who witnessed eight examples during his *internat*. The course of the affection is as follows:—There is (1), usually at the commencement, a horny production found at the sole of the foot, and over the most projecting parts; (2), an ulcer forms, surrounded on all sides by a circle of very thick epidermis, and from which is discharged a sero-sanguinolent, ichorous fluid; (3), inflammation of the serous bursæ, the tendinous and articular synovial membranes, and of the periosteum; (4), osteitis, caries, and necrosis. M. Leplat has found the most common seat to be—at the sole of the foot, over the prominent line of the metatarso-phalangean articulations, the pulp of the toes, and the heel. It has been also met with, exceptionally, at the dorsal surface of the toes, and at the upper and posterior part of the heel, giving rise to the exfoliation of the tendo-Achillis. He believes it to be quite local in its nature, and to arise from prolonged compression between two resistent bodies, first between the shoe and the bone, and later between the bone and the plantar induration. As a consequence of this compression, the dermis undergoes mortification, a molecular destruction of its elements taking place, resembling that which is observable in many ulcers, as after contusion, or in the production of a varicose ulcer. It seems to be met with especially in persons whose occupations keep them much on their feet, and one only of the author's eight cases occurred in a woman. Still, in a case observed by M. Nélaton, he was unable to refer the origin of the affection to any known cause, and it was hereditary in the family. M. Vesignié, who has met with several of these cases, regards the affection as a variety of psoriasis palmaria. Some have attributed its origin to sweating of the feet, others regard it as papillary hypertrophy of the plantar region, while others, again, consider it as the effect of certain diathesis, as the syphilitic. M. Leplat has not been able to trace any of his cases to any of these causes, and yet cannot but allow that some special predisposition must exist, seeing the great rarity of the affection as compared with the general prevalence of the mechanical causes it has been attributed to. Moreover, it is sometimes unpreceded by any induration, while its rapid progress in some cases, and its multiplication at various points in others, forbid its being explained by a mere local cause. When abrasion of the diseased tissues is performed, the affection usually reappears in the cicatricial tissue.

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 132.—*A sign of Pregnancy.*

By Dr. OLDHAM, Obstetric Physician to Guy's Hospital.

(*Medical Times and Gazette*, Jan. 26, 1856.)

IN a case some little time ago, under care in one of the medical wards of Guy's Hospital, in which a consultation was held to determine whether a large tumour in the abdomen of a young unmarried woman were a pregnant uterus or not, Dr. Oldham took the opportunity of showing to the students that a certain power of contraction was possessed by the tumour which marked its true character. The patient's abdomen being well exposed, the outline of the tumour was seen to be less defined before manual examination than it became afterwards. The hand being applied, the tumour at first felt soft and ill-circumscribed, rapidly, however, assuming under pressure a tense rounded form, becoming firm and resisting. The alteration from flaccidity to tension was very marked, and might, as Dr. Oldham observed, be taken as a trustworthy characteristic of a pregnant uterus, since there was no other tumour which possessed any power of altering its form when irritated by palpation.

ART. 133.—*The influence of Pregnancy in controlling or retarding the development of certain diseases.* By Dr. MONTGOMERY, Professor of Midwifery in the King and Queen's College of Physicians, Dublin.

(*Dublin Quarterly Journal of Medical Science*, Nov. 1855.)

After alluding to the probability that women who bear children generally enjoy more health and are less disposed to disease than those who lead a life of celibacy, or who, being married, are childless—that pregnancy is in some measure a protection against disease, and that pregnant women suffer severely when attacked by disease—Dr. Montgomery proceeds to say—“I think also I have seen sufficient to satisfy me that pregnancy does, at least occasionally, exercise another kind of influence over disease in the system, namely, of preventing its develop-

ment during that state, although the infection may have been caught ; as is proved by the disease showing itself immediately after delivery, as in the following cases :

“ Mrs. W., when in the ninth month of pregnancy, was much about her brother, who was dangerously ill of malignant scarlatina ; she seemed to have escaped the danger completely, but the day after her delivery she was covered with the disease, of which she died in a few days ; between the time of her exposure to the infection and her delivery, there had intervened three weeks, during which she appeared to be quite well.

“ When Mrs. F. was in the eighth month of pregnancy, her husband had typhus fever, in which she assiduously attended him ; after his recovery, she went to her father’s house, some fifty miles from town, where she was delivered in due time, and immediately afterwards was seized with typhus fever, of which she died in eight days ; between five and six weeks had elapsed between Mr. F.’s illness and her labour, and during that interval, she seemed in perfect health.

“ In the month of November, 1854, I attended a young lady in her first confinement ; previous to which she had both the lower extremities much enlarged by anasarca, but she appeared, in other respects, quite well, with one exception, which was that she had such *soreness* of the abdomen, she found a difficulty in lying on either side : and when I passed my hand over the abdomen, she complained that the pressure hurt her everywhere.

“ On the 12th, she was confined, after a favorable labour, but the abdominal tenderness remained, and there was a peculiar doughy feel of the whole abdomen ; next day this was equally felt, but with little or no pain or fever, and a perfectly quiet pulse.

“ On the 14th, I found the insteps of both feet, but particularly the left, covered with well-developed erysipelas ; her mother, who seemed very anxious about her, was present when I examined the feet, and on our reaching the drawing-room said, ‘ Doctor, isn’t that very like erysipelas ? ’ I said, ‘ Yes, certainly, there was no doubt about it.’ ‘ Dear me, sir, do you think she could have taken it from her husband.’ She then, for the first time, informed me, that some weeks before leaving home, to come to town for her confinement, her husband had a severe attack of erysipelas, during which she had assiduously nursed him. Immediately on the appearance of the erysipelas on the feet, the abdominal symptoms began to decline, and, after two or three days, ceased to exist. I cannot but believe that this lady caught the infection from her husband during her close attendance on him, that it remained in abeyance until gestation was over, and was then developed. She recovered well.

“ It is, I believe, a matter of common observation, that when women who have been labouring under certain forms of disease happen to conceive, the morbid affection previously existing is oftentimes either greatly mitigated, checked, or even altogether suspended for a time, as has been frequently observed in persons affected with phthisis ; though I must add, that the influence of pregnancy in cases of phthisis is a question on which a variety of discordant opinions has been given

by high authorities. Andral's* conclusion, from his latest observations, is, ' that in the great majority of cases the symptoms of phthisis are suspended, or at least remain stationary during the course of pregnancy.' Louis† says he is not 'in a condition to determine whether pregnancy is, or is not capable of retarding the progress of phthisis,' but he suggests that the fact might be, that several of the symptoms become somewhat more obscure during pregnancy, without any check being in reality given to the advance of the disease. My own experience would lead me to the conclusion, that if a woman predisposed to phthisis, but in whom the disease has not actually become developed, prove pregnant, she is likely to be benefited thereby; and I think I have seen life thus prolonged, for years, in several instances; but, on the other hand, if pregnancy takes place in a woman already actually in consumption, or if this disease supervene on pregnancy, the fatal issue is as likely to be accelerated as postponed, or, perhaps, even more so.

" Several years since, I had a patient under my care affected with white swelling of the elbow-joint, which had gone to a great length, and was very little benefited by treatment, when all of a sudden a very rapid amendment was observed. On questioning the lady, I found that she had reason to think herself about six weeks pregnant, which was the fact; from that time, the cure advanced uninterruptedly, so that before the end of her gestation the arm was perfectly well, and has continued so ever since, she having, in the interval, borne several children."

ART. 134.—*On the frequency of Laceration of the Perinæum in Primiparæ.* By T. SNOW BECK, M.D. Londin., F.R.S., Physician to the Samaritan Free Hospital for Women and Children, &c.

(*Medical Times and Gazette*, Feb. 23, 1856.)

" About four or five years ago, it was stated, during a discussion at the Medical Society of London, that laceration of the perinæum often occurred during first confinements, and was seldom followed by consequences of any importance. A statement of this kind was so contrary to the received opinions, that I recollect appealing to different practical accoucheurs at the time, who all declared that they had never met with a case during several years of extensive practice. And I should have also said, if I had given an opinion, that no such accident had ever occurred in my own practice. But as I was then engaged in testing the correctness of an opinion which had been put prominently forward about that time, *i. e.*, that laceration of the orifice of the uterus not unfrequently happened during labour, and was followed by ulceration, entailing nearly all the ills which woman was heir to,—I determined, also, to ascertain carefully the condition of the perinæum after each labour which came under my own observation.

* ' Clinique Médicale,' tom. iv, p. 367.

† ' Researches on Phthisis,' Walshe's Translation, pp. 279, 280.

"A few days after the discussion at the Medical Society, I was called upon to attend a young lady, æt. 23, in her confinement with the first child. She was of middle stature, sanguine temperament, and broad conformation, and had enjoyed uninterrupted good health during her pregnancy. The labour pains came on naturally, the vagina was lax and lubricated with a free secretion of mucus, the vulva and perinæum were soft and distensible. The waters broke after the orifice of the uterus was freely dilated, and the head came down and presented naturally at the orifice of the vagina. The pains were sufficient, but not violent, and the head was expelled with apparently less suffering than usual, and while the perinæum was carefully guarded. Not any evidence of laceration was perceived, either from unusual suffering by the mother, or from any sensation to the hand whilst guarding the perinæum. In a short time the shoulders and body were expelled by another parturient effort; and the placenta was found detached and readily removed. I felt so assured that nothing unusual had taken place, that I scarcely considered it necessary to make an examination after the placenta had been taken away. I was therefore greatly surprised to find on examination, that the perinæum was lacerated through its whole extent, the lacerated portion presenting the sharp defined edges of a recent breach of surface. No perceptible laceration, however, could be detected at the orifice of the uterus after the most careful examination with the finger. At the visit in the evening I mentioned that some tearing had occurred, and that it was necessary to ascertain the extent; when by placing the patient on her side, the parts were carefully examined by the eye. This confirmed the previous diagnosis, and showed that the laceration had taken place a little to the left side of the fourchette, and had extended to the rectum, exposing the circular fibres of the sphincter ani. The parts were flaccid, and the sides of the laceration in apposition—no unusual soreness was complained of. The knees of the patient were tied together, in order to prevent too much movement of the body, and the nurse directed to wash the part with warm water twice or thrice daily. On the third day the laceration was again examined, and I was surprised to find that union by the first intention had taken place through the whole extent. No further inconvenience followed, and when I took my leave the perinæum was as perfect as if no laceration had ever occurred.

"The next case was somewhat different. The lady was rather tall, about 25 years of age, fair, soft skin, and had been 'rather poorly' during her pregnancy. There was but little secretion from the vagina, yet the parts were cool and dilatable. After the pains had continued for twenty-four hours, and the patient become much exhausted, I thought it desirable, as the hand was pressing on the perinæum, to apply the short forceps and complete the labour. No difficulty was experienced in this procedure, the child being readily extracted with one hand, while with the other the perinæum was supported. No laceration had taken place immediately before the expulsion of the head. After a little time, another pain expelled the body, but the placenta did not immediately follow, and was brought away by traction at the cord, combined with gentle pressure over the

body of the uterus. By the examination which was then instituted, not the least laceration of the orifice of the uterus could be detected; but, as in the former case, the perinæum was torn through its whole extent. The following day I examined the parts with the eye, and found that such was undeniably the case. The same treatment was followed, but no union by the first intention took place. For some few days the laceration presented the same appearance, but subsequently granulations formed, the sides united at the posterior part, and gradually union followed through the whole extent; thus forming nearly as good a perinæum as before the accident.

"It will be unnecessary to detail each case, suffice it that I have before me the notes of one hundred and twelve cases of primiparæ, observed within the last five years, of which seventy-five, or two thirds, had laceration of the perinaeum through the whole extent; while in thirty-seven, or just one third, no laceration took place. Unless this result had been fortified by notes made as soon as I returned home, and by the examination of the parts by the eye, as well as by the touch, I might have considered that some error had crept into these observations; but, with the precautions taken, I feel assured of the accuracy of the result, however contrary it may be to previous opinions.

"The laceration apparently took place just as the head was extruded. The perinæum was perfect immediately before the head was expelled, and was lacerated after the birth of the child. In a few instances, by keeping the finger on the centre of the perinæum, it was felt to give way, to allow the head to pass; but in the great majority no indication of laceration was perceived until after the completion of parturition. In the interval between the extrusion of the head and the expulsion of the body, the parts were so much on the stretch, that it was impossible to determine with certainty whether laceration had occurred or not; but as the shoulders passed without the least difficulty through an opening of sufficient size, it appears most probable that the laceration did not take place at this period, but had occurred previously.

"Of the seventy-five cases in which laceration occurred, fifteen of these, or twenty per cent., healed by the first intention, and the perinæum was as perfect as before the confinement; while fifty-three, or seventy-five per cent., healed by granulation, and produced a more or less perfect perinæum. In not one instance has any inconvenience followed,—such as prolapsus of the uterus, bearing-down pains, &c.—and in only one case was there any trouble attending the accident. This case was amongst the first observed, and while my mind was still imbued with the serious consequences which followed laceration of the perinæum. It did not heal by the first intention, and the granulations were small, and showed little inclination to unite into those of the opposite side. I became anxious, applied different remedies, and, finally, the quilted suture. Nothing which was applied appeared to produce any effect, and the operation of the sutures was decidedly injurious. In the first instance it frightened the patient; was a source of constant annoyance; produced irritation of the part; and, from the pressure of the silk inducing ulceration of the deeper struc-

tures, became loose, and was obliged to be removed. The laceration, however, gradually healed, leaving not more than a quarter of an inch of the rupture unclosed. In this case, the effects of the ligatures were such as to deter me from applying them on any subsequent occasion. In all the cases I have observed, neither the patient nor the nurse was aware that anything had occurred more than usual. The patient said she felt very sore, could not sit up in bed for some few days in consequence, and when she began to sit up out of bed, required a pillow, or some soft substance, to sit upon. But these were considered as 'nothing more than usual on such occasions.'

"Little need be said of the thirty-seven cases wherein laceration did not occur, except that some, at least, were such as might, *à priori*, have been supposed likely to suffer from this accident. The patients were spare, and rather above the average size; the perinæum small in extent, firm, and somewhat unyielding. But in women with this conformation, scarcely one suffered from laceration, and then only when the size of the child was disproportioned to that of the pelvis of the mother; but when the perinæum was broad, thick, and soft, scarcely one escaped being torn through.

"It, of course, will remain for further observation to determine whether these cases, taken indiscriminately from the practice of one physician, fairly represent the average occurrence of this accident in women confined with their first child. If it does, then laceration of the perinæum becomes the rule in such cases, instead of the exception; but even if it does not, it yet shows that this accident is of much more frequent occurrence than has been supposed. These cases further show that when laceration does occur, this will heal perfectly by ordinary attention, rest, and cleanliness. Such, at least, must be admitted from the result of the seventy-five cases, every one of which has healed with little trouble, and none have been followed by any annoying consequences. From these facts we may, I think, advance a step further, and conclude that, in cases where the laceration has extended through the sphincter ani, there is great probability that the laceration will heal, in many cases, by the natural process; and that time should be given for this purpose, before any operative procedure is had recourse to.

"The majority of those females who form the subject of these observations have been confined with the second, and several with the third child; but in no instance has laceration again taken place, and in only one was there a slight tearing, during the birth of a large child, which soon healed. It would then appear that the cicatrix which follows a lacerated perinæum is less liable to give way during parturition than the natural structure of the part.

"It is an acknowledged fact that severe laceration of the perinæum, involving the sphincter ani, has not unfrequently occurred without the accident having been discovered until some time subsequently, by the inability of the patient to retain the motions, and other distressing consequences. And it is also known that tearing of the perinæum, up to the sphincter, has taken place, and has not subsequently healed. But we have no information as to the circumstances which have interfered with the healing process, which these present cases appear

to show usually takes place. My own experience would lead me to conclude, that many cases may, and do occur, without the medical attendant being aware of the accident. For, although my attention was specially directed to this point, yet several occurred wherein the laceration was not perceived until a careful examination of the parts had been made after the labour was completed. Had this examination, which is unusual, not been instituted, the accident might not have been discovered, either at the time, or subsequently, by reason of the strong tendency which appears to exist for the healing of any tearing or other injury to the generative organs of the female when the process of parturition has been completed."

ART. 135.—*On Ruptured Perinæum.*

By. Mr. J. BAKER BROWN, Obstetric Surgeon to St. Mary's Hospital.

(*Medical Times and Gazette*, Nov. 3 and 10, 1855.)

The object of this paper (which was read before the Medical Society of London) was to add further confirmation to the truth of the four propositions laid down in Mr. Brown's previous papers on this subject, viz.,—

1. That the oldest and worst forms of ruptured perinæum can be cured by the operation already described.
2. That the worst forms can be cured by operation immediately after the lesion.
3. That the new perinæum is not torn by, or prejudicial to, subsequent parturition.
4. That those forms of rupture where the sphincter is not torn through, should be cured, to prevent prolapsus uteri, &c.

Another object of this paper is to add a fifth proposition, viz.,—

5. That the operation may even be performed three or four days after the accident, although the parts may be in a sloughy condition.

He adduces instances illustrating all *five* propositions, and relates seven severe cases upon which he had operated, all of which terminated successfully. He then proceeds to offer a tabular statement of all the cases he had yet published, including those read before the society, tabulating the statement as to age, duration of rupture, nature of rupture, character of operation, and result, with summary remarks. From this statement it is seen that twenty-eight of the cases were completely successful, two were *partially so*, and *one died*. Of the two *partially* successful, the first was entirely attributable to the entire unmanageableness of the patient after the operation, refusing the absolute quiet so essential to success; and further, to the patient leaving the hospital before anything could be done to remedy the recto-vaginal opening, which might easily have been done had the patient submitted to treatment. The second was the most serious case he had seen, with a greater loss of the recto-vaginal septum, and yet so satisfactory was the result, that the patient left the hospital with control over the bowels, and with every prospect of having a permanent and sound perinæum; but, as she refused to remain sufficiently long in the hospital for the united surfaces to gain sufficient strength, and as, on her

return home, contrary to Mr. Brown's injunctions to remain quiet, in a recumbent posture, she got up every day and took violent walking exercise, a gradual giving way of a great portion of the united surfaces resulted. The case of *death* was interesting from the fact that the subsequent history (which he, Mr. Brown, had ascertained from his friend and colleague, Mr. Coulson) proved that a slight wound, even from cutting her finger, in one instance, took three or four months to heal, assisted by a residence at the seaside; and that was, of course, unknown to him at the time of the operation. Of the twenty-eight successful cases, he observes, that in twenty-one cases there was complete rupture of the perinæum, with the loss of the sphincter ani; and in the remaining seven there was either prolapsus of the uterus, bladder, or rectum, all of which affections were completely cured by the operation. He remarks also, that five of these patients had been delivered subsequently to the operation, and with no injury to the perinæum but what was easily remedied by suture; and that of the thirty-one cases, in thirteen of them the cause of rupture was the use of instruments. He (Mr. Brown) then proceeds to place before the society a tabular statement of the operations performed by the late M. Roux, of Paris—tabulated in the same way as he (Mr. Brown) had done with his own. M. Roux's cases were fifteen in number: of these he returned twelve as successful, two as unsuccessful, and one death. But of the twelve returned as successful, he (Mr. Brown) observes, that in six of them M. Roux stated that a recto-vaginal fistula remained. It could not, therefore, be said that the operation was successful; and if those six were added to the three confessedly unsuccessful, it would give nine out of fifteen, or nearly two thirds of the whole, as unsuccessful. He observes that M. Roux used the quill-suture in them all; but there was no mention of a division of the sphincter ani in any one of them, a fact to which he (Mr. Brown) attributed the large number of failures. The author briefly sums up by recapitulating the points to be observed, in the following few words—quill-suture, division of sphincter, free use of opium, generous diet, and frequent catheterism.

ART. 136.—Case of birth through the centre of a lacerated Perinæum.
By Dr. J. F. LAMB.

(*American Quarterly Journal of Medical Science*, April, 1856.)

This case is as follows:

“**CASE.**—In June, 1821, I was called to attend a primiparous woman, whose age was about thirty years. The pelvis was well formed, and the presenting part was found to be the head; ascertained ultimately to be the occiput to the right sacro-iliac symphysis. The labour was progressing favorably, though for some hours the parts seemed unyielding, and I found it impossible to correct the presentation. As the head advanced, and the pains became strong, my attention was directed to the perinæum, which became violently stretched, and I presume, in an unguarded moment, when the support was not where it should have been, the infant seemed really to have jumped through the perinæum! Being then a mere novice in obstetrical practice, at the instant I

did not understand the nature of the accident. A single pain had expelled the child, which was of ordinary size, and full of life. My first business was to secure and divide the cord, and then to ascertain the nature and extent of the injury, which was directly manifest. The funis umbilicalis was carefully withdrawn from its unnatural channel, and brought out through the vagina. The placenta was detached and expelled without delay or difficulty—when, upon a more careful examination, I found the rent in the perinæum very nearly central; the fourchette and the sphincter ani were uninjured, and the accident was attended with very little hemorrhage. A stitch appeared to me to be unnecessary. Having a reliable nurse, I satisfied myself by placing the patient comfortably on her back, with the thighs in close apposition, and impressing on both patient and nurse the absolute necessity of maintaining that position for several days.

"On examination at the close of the fourth day, I was pleased to find the edges of the wound adhering with firmness. The patient made a very good recovery, and, indeed, the whole case was attended with so little trouble, that she was scarcely aware that anything very unusual had happened.

"The union was firm and perfect, and this patient subsequently gave birth to several children without the recurrence of accident."

ART. 137.—*On the use of Chloroform in Midwifery.*
By Dr. MURPHY, Professor of Midwifery in Univ. College, London.

(*Lancet*, Feb. 2, 1856.)

In a paper read before the Medical Society of London, on a recent occasion, Dr. Murphy directed attention to three points as worthy of reflection. First. The progressive effect of chloroform on the nervous system, from which he derived the safety of its application. Secondly. The difference that exists in its effect on different constitutions, showing the importance of a guarded use of it. Third. The remarkable disparity in the amount of suffering from the pains of labour which women experience when going through what is called "a natural labour," which proves the infinite value of this agent, not only in assuaging an amount of agony which overcomes the fortitude of women of the strongest resolution, but also in promoting their more rapid recovery. He mentioned as the result of his own observation, that the nerves of sensation were first affected, and that pain may be relieved before chloroform acts on the brain, or impairs consciousness. The brain then becomes engaged, and mental power disturbed, causing giddiness, rambling, and ultimately sopor. At the same time, or nearly so, the reflex nerves manifest its influence. He did not wish to pass what he might call the first stage, the relief of pain, because he thought it quite sufficient for ordinary obstetric purposes. The profound stertorous sleep required for surgical operations he did not think necessary in midwifery. He described the effect of chloroform on a patient when used in this way, and for this purpose preferred inhalation by the mouth alone, as being safer. Such use of this anaesthetic might be considered inefficient, because the patient still suffers some pain. He (Dr. Murphy) found it quite the contrary, because the pain is as nothing compared with what she otherwise would have endured, and her recovery is always rapid. She does

not suffer from the exhaustion which follows a severe labour, rendering the patient restless, and obliging the practitioner to employ opium to procure sleep. He looked upon chloroform, in this respect, as the most valuable assistant in the management of labour that has ever been discovered. The author alluded to the difference in the effect of chloroform on different constitutions. All women are not equally susceptible to its influence. With some, a few inhalations are sufficient to control all pain, and even put them to sleep; while others continue to inhale for a long time before they experience any relief. In these instances caution is necessary, which is very easily exercised if chloroform is given in the gradual manner stated. It is necessary to watch its action on the reflex nerves, and to withdraw the vapour when they become affected. He (Dr. Murphy) thought the respiration and action of the uterus especially should be attended to. It is of importance to watch for stertor during the sleep of the patient, and not to mistake the cause of the short and feeble pains. The uterus is not paralysed, as has been supposed, but the aid which it receives from the reflex muscles is diminished. In this, as in the former case, the sound sleep which follows labour perfectly restores the patient. The third variety is rarely met with, and is very perplexing. He related a case where chloroform seemed to increase the pains, although in the intervals the patient was in a profound sleep. When stertor was observed he withdrew the vapour. The patient was safely delivered, slept for some time, awoke, and had no recollection of anything that occurred from the time she inhaled the chloroform. He attributed this effect to a kind of dream. What in other patients would cause incoherent rambling here exaggerated the one idea, pain. The remarkable difference in the amount of suffering which women experience when going through natural labour proved the value of chloroform most clearly. Some suffer comparatively little; at no period of labour are the pains beyond their power of endurance; chloroform is not therefore called for. But there are cases of a very opposite character, in which the patient is acutely sensitive, where even slight pains cause great distress, and where the more powerful pains become so intolerable, and cause such an amount of suffering, that the action of the uterus is often suspended. It is in such instances that the value of chloroform shines the most conspicuously, and it is here that the practitioner will find its aid most clearly unquestionable. He concluded by apologising for an imperfect paper. He avoided entering upon, or replying to, the objections offered to its use, not only because he had already fully examined them, but he was unwilling to make this valuable agent a kind of battle-field for the collision of strong and decided opinions. It was in the power of every one to arrive at a just conclusion from his own experience. He entreated those who would follow this rational mode of investigation not to be led away from it by "post hoc ergo propter hoc" arguments; not to believe that all the well-known casualties of labour are caused by chloroform, because this agent happens to be administered; not to take second-hand histories of its effect, but as the members of a highly scientific profession are bound to do, to take nothing for granted, but examine and judge for

themselves. He thought that there was nothing singular in the reception it has as yet met with in this great metropolis. It took fifteen years before gaslight triumphed in London. The light shone conspicuously wherever it was introduced, but it only made more manifest the prejudices and apprehensions of the public. It was declared to be most offensive, most dangerous; houses were blown to atoms by explosions of the gas, and the event was recorded with all the avidity of a death from chloroform. Still it continued to be used by its advocates; they gradually increased; at length its use became general, explosions were only recorded as unfortunate accidents, and now gaslight has obtained its triumph. It gives not only light, but heat, it supplies the place of coals as well as candles, and every house in London considers this noisome and most dangerous agent an indispensable requisite. He (Dr. Murphy) anticipated from chloroform the same career. It is now under its trial, but as it becomes better understood will be more generally used, and ultimately become indispensable in the lying-in apartment.

ART. 138.—*Cases of Cæsarian Section.* By (1) M. WIECKEL; and
(2) DR. MERINAR.

1. *Med. Zeitung*, Aug. 1855.

2. *Charlestown Med. Jour. and Rev.*, March, 1856.

(1) *Dr. Merinar's case.*—The subject of this case was a servant girl, æt. 27, upon whom the operation had been performed twice previously (v. "Abstract," xxi, p. 193.) There was no difficulty in the operation, and a living male child was the result of it; but the mother sank five days afterwards, apparently from peritonitis. The operation was performed on the 22d October, 1855.

(2) *M. Wieckel's case.*—In this case, also, the operation had been performed twice previously, (v. "Abstract," xxi, p. 193,) and each time in consequence of rupture of the uterus, and the passage of the child into the abdominal cavity. On this occasion the rupture took place while the patient was engaged in lifting a great weight, and on examination, the child could be distinctly felt through the abdominal parietes. The operation was performed, under chloroform, on the 14th April, 1855, and a female child of about five months and a half was extracted without any difficulty. The process of recovery was not interrupted by a single untoward event, the wound healing by the first intention, and the mother being able to resume her domestic duties in about fifteen days.

In our previous account of this case M. Wieckel's name is spelt as Winckel, and the patient's name which is spelt Lieper, ought to have been Sieper.

ART. 139.—*On the expediency of Symphyseotomy.* By Dr. KEILLER.

(Edinburgh Medical Journal, Aug., 1855.)

Dr. Keiller recently reported to the Obstetrical Society of Edinburgh the results of a series of experiments which he had performed with the view of ascertaining the nature and extent of motion in the sacro-iliac and pubic articulations, and of determining the expediency of the operation of symphyseotomy. The experiments were performed on female subjects, several of whom had borne children, and in three of the cases an advanced state of pregnancy existed.

Dr. Keiller admitted that a certain degree of separation and motion occasionally took place in the pelvic joints, and that a small amount of space might be obtained by forcible separation of the pubic articulation, either by nature or operative procedure, but denied that the space so gained was in the direction where it was usually required in deformed pelvis, viz., in the antero-posterior diameter of the brim.

Dr. Keiller demonstrated that, on dividing the inter-pubic fibro-cartilage, great retraction of its fibres took place in front, where its structure was comparatively thick, thus giving rise to the idea that considerable separation of the bones had taken place, which was not actually the case, a point easily ascertained by examining the posterior aspect of the joint, where the bones, after the operation, would be still found almost in close apposition. This apparently great separation of the articulation in front had no doubt frequently misled those who believed that by division of the symphysis real space was gained.

Dr. Keiller stated that he could not in any other way account for the conclusions arrived at by Dr. Duncan, who, in his recent communication to the society on this subject, had affirmed that, in experimenting on the pelvis of a subject, he had succeeded in readily procuring about two inches of space between the pubic bones, by simply dividing the symphysis, and without applying any force to increase the amount of separation.

Dr. Keiller had now performed the experiment of dividing the symphysis pubis on a great number of subjects, and had carefully noted the comparative measurements, and had arrived at conclusions widely different from those come to by Dr. Duncan.

At the same meeting, Dr. Simpson exhibited three recent pelvises illustrative of this subject, and mentioned the results of his experiments with them. He agreed with Dr. Keiller that the extent of separation and motion was by no means so great as had been stated by Dr. Duncan. Dr. Simpson considered the Sigaultian operation inexpedient and dangerous, and thought that it would not again be revived from its present obsolete position.

Dr. Duncan made a few remarks on the preparations, and adhered to the opinions he had formerly expressed as to the mobility of the articulations in pregnancy, and as to the propriety of the question of adopting the Sigaultian operation in particular cases being reconsidered.

ART. 140.—*Cases of Labour where the heads of Twins were locked in the Pelvis.* By (1) Dr. SIDEY and (2) Dr. MATTHEWS DUNCAN.

(*Edinburgh Medical Journal, Oct., 1855.*)

The two following cases were read before the Edinburgh Obstetrical Society. In the first both children were born alive.

(1) *Dr. Sidey's case.*—Mrs. B—, her fifth confinement, and her second of twins; saw her during the day, when the pains were slow and weak, the presentation being high, and of the breech. I left word that when the pains became stronger I was to be sent for. In the evening they became so, and when I arrived the breech was just expelled; having relieved the cord from pressure on the head turning into the hollow of the sacrum, a hard tumour came pressing down under the arch of the pubis during a severe pain, preventing the presenting head being extracted. Upon examining carefully, I found this tumour nothing else than the head of a second child, jamming itself firmly on the first, and had some trouble in relieving the now locked heads; taking advantage of the interval of pains, and keeping up the head of the second child during the pain, I succeeded in extracting the head of the first child, and the second followed. The twins were of the usual size; mother and twins did well.

(2) *Dr. Duncan's case.*—Mrs. F—, æt. 21, was taken in acute labour of her second child at noon, after being for some hours affected with lingering pains. The body of a child was born at two p.m. Matters continued in this state, under very strong pains, till nearly five p.m., when Dr. Rosa first saw the woman.

Dr. Duncan saw the case soon after, and found that while the body of the first child was born, its head was prevented from entering the pelvis by the head of the second child, which was lodged in the hollow of the sacrum, having the neck of the first lying between it and the region of the thyroid foramen of the left side of the mother. The occiput of the second child was directed to the right side of the mother; that of the first child was in nearly an opposite direction. During a pain, both heads descended, but especially the second, which then pressed strongly into the outlet of the bony pelvis. It appeared to Dr. Duncan that both children might have been delivered entire. But a different plan was followed.

The child half born was certainly dead; and the second child was so also (as far as could be made out). The vagina was much stretched, and as if dragged upwards, and the uterine tumour tender to the touch. The woman had been long in this distressing state, and was urgent for relief. Dr. Duncan, therefore, resolved to deliver quickly, and as easily and safely as possible for the mother.

With a bistoury he decapitated the first child, already certainly long dead. After this, a few pains were observed. The heads continued in the same relative position, and both were propelled downwards during the contractions, but without any decided progress. The forceps were then applied to the head of the second child, which was thus delivered almost without any traction. The head of the first child was then easily removed by seizing the stump of the cervical spine with a Lyon's forceps, and extracting it. The placenta was soon afterwards delivered (6.15 p.m.) The woman made a very good recovery. The twins were large, well-formed children.

ART. 141.—A case of spontaneous Restoration of the Retroverted Uterus. By Dr. RAMSBOOTHAM, Obstetric Physician to the London Hospital.

(*Medical Times and Gazette*, Dec., 1855.)

In the 'Medical Times and Gazette' for October 23d, 1852, will be found eight cases of retroversion of the gravid uterus, treated by Dr. Ramsbotham, which go far to prove the truth of the position laid down by Denman, in opposition to the doctrine inculcated by William Hunter, Baudelocque, and others,—that if the bladder be kept duly empty, the womb will, in the great majority of instances, spontaneously regain its natural position, without the employment of any manual operation, beyond the frequent introduction of the catheter.

Since some members of the profession, however, may still incline to the opinion that the use of active means is absolutely required for its restoration, and, as consequently forcible attempts to push the fundus upwards may very likely be had recourse to unnecessarily, he thinks the publication of every case that tends to confirm our reliance on the passive mode of treatment useful.

CASE.—A. G., of Hannibal Road, Stepney, æt. 41, married twenty-one years, having had nine children, and suffered two miscarriages,—the last at two months, in January of this year,—applied to me among the out-patients at the London Hospital, on Saturday, the 29th of last September. She stated that she had not menstruated since the middle of June, that seven days before, while lifting a heavy pailful of water out of the water-butt, she felt a sudden pain at the lower part of the abdomen; this was followed by some difficulty in passing urine, though it did not amount to an absolute stoppage. On the next Tuesday, however, after riding from Stepney to Pimlico in an omnibus, which shook her exceedingly, she found she was quite unable to expel the least quantity from the bladder. On her return home, the urine was drawn off by the catheter, and the same instrument was used again on Wednesday, but not by the same gentleman. From that day till I saw her on the Saturday, the catheter had not again been had recourse to, nor had she passed any urine voluntarily, though some had dribbled away at different times, or come in gushes. The bowels had not acted since Tuesday. She did not know whether she was pregnant or not; but inclined to the latter opinion.

She appeared to be in great pain, and her countenance was indicative of much distress. Independently of the agony of a distended bladder, she complained of a violent forcing and bearing down, and a tearing and dragging sensation at the groins.

The history and symptoms led me immediately to suspect that the uterus was gravid and retroverted. I found the bladder largely filling the lower half of the abdominal cavity, its fundus rising as high as the umbilicus; introduced the catheter without delay, and drew off the enormous quantity of ninety-two ounces of dark coloured, but not offensive urine. On making a careful examination, my suspicions were confirmed; for the hollow of the sacrum was occupied by a hard tumour, which was, indeed, the fundus and body of the uterus; while the mouth of that organ was canted upwards and forwards, behind or rather above the symphysis pubis. The anterior face of

the vagina was considerably stretched, and there was general tenderness of the whole pelvic structures.

I admitted her into the hospital and ordered her to bed ; fomentations were applied, and she took 30 minims of laudanum. My resident assistant was directed to draw off the urine every eight hours, and to administer some castor-oil the next morning. The medicine acted satisfactorily on the bowels in the course of the day ; the bladder was kept empty as described ; she was confined scrupulously to the recumbent position ; no attempt was made to replace the uterus artificially ; nor was any fresh vaginal examination even instituted ; and in three days she was able to void her urine of her own accord satisfactorily. The anxiety of countenance had then disappeared, and she expressed herself as feeling quite well. On examination per vaginam, the fundus uteri was now no longer to be felt in the pelvic cavity, the os uteri was in its natural situation, and none of the previous tenderness remained. I kept her in the hospital merely for the sake of precaution, to prevent a recurrence of the accident, for a fortnight. During this interval she was confined to bed ; was enjoined to pass water frequently ; and, when she attempted to do so, to place herself on her hands and knees. She left the house on October 13th, and is going on in pregnancy, not having experienced any return of the symptoms. She tells me that she quickened last week.

No case could more strongly prove the value of rest and the recumbent posture, together with a diligent attention to the bladder, under such circumstances, than this does. I scarcely expected that the uterus would have righted itself so speedily, after having been three days partially, and four completely, retroverted, with its fundus pressed so low down towards the perinæum as this was ; and I was prepared to use some mechanical efforts to restore it, if it had continued in this abnormal position for two or three days longer.

ART. 142.—*Case of complete Inversion of the Uterus at the time of labour.* By Dr. MONTGOMERY, Professor of Midwifery in the King's and Queen's College of Physicians.

(*Dublin Hospital Gazette*, April, 1856.)

This case is remarkable on account of the absence of the ordinary symptoms of the accident, and its value is enhanced by the comments which accompany it.

“ CASE.—On the 10th September, 1854, Mr. M— called on me to request that I would immediately visit his wife, whom he stated to be dangerously ill after her confinement. I accompanied him at once, and on my arrival at the patient's house, at 9 o'clock, a.m., found a physician-accoucheur, of experience and discretion, in attendance, who subsequently gave me the following account of what had occurred before my arrival :

“ ‘ He had been sent for to see Mrs. M— about 11 o'clock, p.m., of the evening before, when he found her in labour of her fourth child, with the head presenting. She was 28 years of age, healthy, and her former labours had been quite favorable. The liquor amnii had been discharged about twenty-four hours previously, without pain ; for some time after the doctor's seeing her, the pains which had recently set in were pretty active, and as the pelvis was a roomy one, he expected that the labour would terminate in two or three hours. It was not, however, till about half-past seven o'clock that

the child, a female, was born. During the night, two half drachm doses of ergot had been given, with little apparent effect, and it was not till after a pretty large dose of laudanum and peppermint was administered that the pains became really efficient. There was no hemorrhage, but as the placenta did not seem likely to come away speedily, the womb being sluggish and not disposed to contract, the nursetender was directed to make pressure over the uterus, while the doctor drew down the cord. In about ten or fifteen minutes the placenta came away, followed, on the instant, by a *large round tumour which passed completely out of the vagina*, and was, for an instant, supposed to be the head of a second child, which it equalled in size.

“ It was, however, soon ascertained to be the uterus completely inverted, no os being to be felt. The tumour was at once returned within the vagina without much difficulty, but pressure on the fundus failed to effect its restoration to its proper place. There was some hemorrhage, both on the sudden descent of the uterus, and after its return, *but not much*. The patient felt a pressing desire to make water, and a distressing sense of pressure on the bladder, and becoming anxious, it was deemed advisable to have further advice. Although alarmed, from the knowledge that there was something wrong, she presented little change in countenance, or pulse, no faintness, and but little hemorrhage. Her recovery, after the replacement of the uterus, went on most favorably, and at the end of a month she was as well as after any previous confinement. ‘ February, 1856, she has been in good health ever since, and now considers herself two or three months pregnant.’ ”

“ Such are the accounts I received of this case at the time of the accident, and since, and I am now to state what I was myself present at. I was at the patient’s bedside at 9 o’clock, delivery having taken place at half-past 7 o’clock. I found her looking tranquil, her pulse good, firm, and quiet, and although she was anxious about herself, believing that there was some cause of alarm, there was not the least approach to that kind of overwhelming nervous distress which so often accompanies so serious an accident. She complained of nothing except the sense of pressure on the bladder; there were very smart periodical pains, which, however, she rather made light of, as she regarded them only as after-pains, such as she had had after former labours, which indeed they perfectly resembled; there was very little hemorrhage.

“ On examining the abdomen, there was to be felt *a considerable tumour in the supra-pubic region*, and taking this fact with the other conditions above mentioned, I confess I felt almost certain that it could not be a case of inversion, the symptoms were so widely different from those which almost universal experience would lead us to expect. An examination *per vaginam*, however, soon removed all doubt. I found that passage, indeed I may say the whole pelvic cavity, filled up with a firm fleshy tumour, *which was perfectly insensible*; and on passing the finger along it upwards, it was found to terminate in a *cul de sac* all around, and about an inch within the margin of the os uteri; so that the inversion, or, perhaps, more properly, the eversion of the organ was as complete as I believe it ever is *in the first instance*. ”

“ In proceeding to effect the reduction, I, in the first place, put the patient fully under the influence of chloroform; I then introduced my hand, and grasping the tumour, I compressed it as strongly as I could from the lateral circumference towards the centre, and at the same time pushed it upwards and forwards towards the umbilicus; for several minutes this proceeding seemed quite without effect, but at length I felt the tumour begin to yield,

* When the displacement has been for some weeks or months in existence, the tissue of the organ having gradually contracted and greatly diminished in bulk, the *cul de sac* vanishes.

receding and gliding, as it were, by a spontaneous movement of *the whole tumour* upwards, and not of the lowest part of the fundus re-entering itself; and then, all at once, it suddenly almost sprung away from my hand, and was restored to its proper place. I pressed my hand into its cavity, up to the fundus, and kept it there for a few minutes, and before withdrawing it I took the precaution of making sure that there was no dimpling in, or cupping of the fundus, by feeling the hand so retained with my other hand through the parietes of the abdomen. The resistance to the replacement of the inverted organ was so great that I do not think I should ever have succeeded had I not put the patient to sleep, and subdued its contractile efforts by the administration of chloroform. I cannot but consider myself very fortunate indeed in having succeeded in restoring this uterus fully an hour and a half after its complete inversion, during which interval, moreover, active contractions had not ceased to occur. Dr. Merriman says that under such circumstances, unless the inversion be reduced in a few minutes after the accident has happened, all attempts to return it will be ineffectual. And Denman tells us that although present at the moment when the accident occurred, in a patient of his own, and only waiting until he had separated the placenta, he could not possibly effect the replacement of the organ."

"Inversion of the uterus at the time of delivery," adds Dr. Montgomery, "is, like the spontaneous evolution of the child, an accident of such rare occurrence, especially in private practice, that few, even of those most extensively engaged in practice, have ever seen a case of it; and still fewer have been actually present at the moment it took place. I have spoken with several practitioners on this subject, and, like myself until lately, none of them had ever met with it in private practice; one gentleman said that, in forty years, he had been called in once to a case of the kind; but found the lady dead when he arrived; another gentleman had seen it once in thirty years. The late Dr. Douglas told me, within a year or two before his death, that he had just then met with it for the first time, in private; and he assured me that it had taken place after he had left the lady apparently safe and well. Denman says, expressly, that it was an accident of very rare occurrence during the whole of his life; and Dr. Ramsbotham, whose practice and experience were equally extended, says he never saw a case immediately after inversion.

"The inevitable consequence of this rarity is, of course, that no one man can, even during a long life, acquire much actual personal experience of the accident, its symptoms, or its management; and hence, these are, by very many, comparatively but imperfectly understood; and in some important respects, most inaccurately described by many of those who have undertaken to write instructions for the guidance of others; not having witnessed, or treated the accident themselves, they are obliged to borrow from the descriptions of others equally without experience, and so the statements of one writer are copied by another, without the possibility of accurate correction. For example, one of the diagnostic marks of an inverted uterus is commonly stated by authors of credit to be its sensibility, by which it may be distinguished from a polypus, which is quite insensible. Thus, Mr. Newnham, after mentioning several circumstances connected with recent complete inversion, says, 'the pain is very severe, and the

tumour is exquisitely sensible.' Dr. Merriman, says, 'the inverted uterus is sensible to the touch.' So, also, the late Professor Burns stated unreservedly, in all the editions of his very valuable work, previous to the ninth, in which he modified his former assertion, and mentions that I had shown him an inverted uterus which was quite insensible. The case thus referred to was that of an aged woman who had the uterus inverted by a polypus which sprung, by a broad attachment, from the fundus of the organ.

"This case of Mrs. M. may be regarded as one of many instances met with in practice, in which the severity of the symptoms is not at all in proportion to the gravity of the accident which may have produced them; in this case, for instance, the inversion was complete, and the symptoms insignificant.

"One of the most remarkable illustrations of this remark, to be found in the annals of medicine or surgery, as well as the most extraordinary instance of recovery from a desperate injury, is the case which occurred to Mr. Cooke, at Coventry, in 1835, in which the completely inverted uterus, with the fallopian tubes and one ovary, was, on the third day after delivery, taken away, either by the woman herself, or by the attendant midwife, without any injurious consequences, or, indeed, the occurrence of a single bad symptom; no hemorrhage of any importance, no exhaustion, no peritonitis, and convalescence nearly as quick as after an ordinary confinement. When I was in Birmingham, in 1840, I saw the uterus of this woman in the museum there, and at that time I was informed that she was alive and well. A case, much resembling the above, was brought before the Medical Section of the Congress at Florence by M. Rossi, in which a midwife partly tore, and partly cut away, a recently inverted uterus; the woman, notwithstanding, recovered in about thirty days. Wrisberg's case of the same kind is well known.

"The production of this accident is, I think, too generally ascribed to injudicious traction of the cord to bring down the placenta; and the inevitable consequence of this presumption is, that whenever it is found to have occurred, it is taken for granted, that the attendant practitioner must be to blame, as having thus caused it, when, in truth, all that depended on him may have been done with all proper care and skill, and the accident have arisen from causes over which he had no control; at the same time, undue pressure over the fundus uteri, and strong traction by the cord, are likely to be productive of so many untoward, or even fatal consequences, that no prohibition of their adoption can be too strongly enforced, and, I may add, that the last two cases of inversion, of which I am aware as having happened in this city, were, I believe justly, attributed to the combined action of these agencies; but, if this displacement were easily produced by the mismanagement alluded to, instead of being, as it confessedly is, very rare, it would assuredly be of very frequent occurrence indeed, considering that the objectionable plan of interference is so constantly that of midwives and, too often, of better educated practitioners.

"I think we have quite sufficient grounds for believing, with Merriman, that 'there can be no doubt that a spontaneous inversion has sometimes occurred'; or, to use the words of Dr. Blundell, that

'the whole uterus may be pushed down, and this independently of anything done by the obstetrician.' Ruysch states that the accident may happen, and did so in his own practice, when no undue force was used ; and, after animadverting on the impropriety of forcible extraction of the placenta, as the general cause of this accident, he adds, ' aliquando tamen, ortum dicit a conatibus post partum remenantibus.'

"Rokitansky describes a condition of the uterus immediately after delivery, which might readily lead to inversion: it consists in a paralysis of the placental portion of the uterus, occurring at the same time that the surrounding parts go through the ordinary processes of reduction ; the part alluded to is thus, he says, ' forced into the cavity of the uterus by the contraction of the surrounding tissue, so as to project in the shape of a conical tumour, and a slight indentation is noticed at the corresponding point of the external surface.' And he adds an observation, the truth of which I had occasion to verify, I may say anticipate, several years ago. ' The close resemblance of the paralysed segment of the uterus to a fibrous polypus may easily induce a mistake in the diagnosis, and nothing but a minute examination of the tissue can solve the question. The affection always causes hemorrhage which lasts for several weeks after child-birth, and proves fatal by the consequent exhaustion.'

"The following case was an instance of this occurrence. In July, 1831, I was summoned, at four o'clock in the morning, to see a lady who had been delivered at ten o'clock the previous night. The placenta was still retained, although she had had, all through the night, rather severe expulsive pains ; she had lost a good deal of blood. On examination, I found the serous surface of the placenta lying upon, and pressed against, the internal surface of the os uteri, but although the uterine contraction continued, I could not get it down by traction of the cord. On passing my hand into the uterus, I found the placenta was adhering to a globular tumour, which seemed to be as large as a good sized orange, and which, at the moment, I had no doubt was a fibrous tumour projecting from the inner surface of the uterus. To this tumour the placenta was morbidly adherent, and was only separated therefrom with difficulty. Having, however, accomplished this, and turned my hand freely in the uterus, to secure its complete contraction, the tumour, which was evidently the 'placental portion' of the uterus partially inverted, completely disappeared, and the lady afterwards recovered well. Denman relates a case very much resembling this.

"With regard to those cases, in which inversion has been supposed to have occurred *spontaneously*, after the departure of the medical attendant, I think we may take for granted, that in not a few of them the displacement had *commenced* while he was present, though without his knowledge ; perhaps with very slight manifestations of its occurrence, or it may have remained unnoticed from want of sufficient observation, and proper examination on his part. In the *Gazette des Hôpitaux*, for 7th February last, there is a case reported in which partial inversion of the uterus was only discovered on the 6th December, in a patient who is stated to have been *safely delivered* on

the 13th November; but, from the whole details of the case, it appears almost evident that the inversion occurred at the time of labour, but was not then noticed.

"There is obviously this danger in supposing, as so many do, that this accident is always attended and announced by a particular train of urgent symptoms; that if such symptoms are not observed, the attendant may be induced to conclude, what he would naturally so much desire, that no such accident could have happened, and so the patient is left to die, or linger out a life of misery. The instances in which this has happened are numerous indeed; one such is above referred to, and another we may quote from Dr. Merriman, in which it is stated that 'the placenta came away without any difficulty, and certainly without any suspicion of injury to the uterus;' but, between six and seven months afterwards, it was discovered that the uterus was inverted.

"Now, when we succeed in effecting the replacement of a completely inverted uterus, how is its restoration really accomplished? Is it, as is generally stated in books, by re-inverting first the dependent fundus, or, in the words of Sir C. M. Clarke, 'by making pressure on the lower part only of the tumour, so as to cause this part to be received into that above it,' and so on, gradually up to the angle where the cervix is flexed on itself? Judging from what happened in this case of Mrs M., and from the accounts given by others of what happened in their cases, I think the above is not the mode of reduction; but that, as we compress the bulk of the tumour, and try to press the fundus back into itself, and push it upwards, *the flexure at the cervix* yields, and presently the fundus seems to escape upwards by springing as it were from our hand; so that the part which was last inverted is the first restored. This springing away from the hand is expressly mentioned by more than one writer of authority, and is, I presume, produced by the contraction of the orbicular fibres of the partially restored cervix lifting up quickly the globe of the fundus.

"I have now only to observe, that however small is the number of cases of inverted uterus met with in practice, it would be still smaller if it were the universal rule carefully to examine every recently-delivered woman, both through the abdominal parietes, to ascertain the size and form of the uterus, and also *per vaginam*, to be satisfied that there was no tumour protruding into that canal; nothing can excuse the neglect of this simple proceeding, and if it were *invariably* adopted, I think, with Mr. Newnham, that 'chronic inversion of the uterus would be known only by description.'"

ART. 143.—*Remains of a Foetus expelled periodically.*
By Dr. BARAVILLI.

(*Presse Méd. Belge*, Feb. 3, 1856; and *Dublin Medical Press*, Feb. 26, 1856.)

Among several clinical observations read before the Academy of Sciences of the Institute of Bologna, by Dr. Baravilli, the following case appears to us to be calculated to interest our readers.

The subject of the observation was a robust woman, æt. 38, who

did not become pregnant until eighteen years after marriage; in the fifth month of pregnancy she experienced a powerful emotion, subsequently to which a small quantity of liquor amnii was discharged, and soon after the umbilical cord of a foetus appeared externally. Some days later, having been attacked with slight uterine contractions, she saw, to her great surprise, the thigh and leg of a little foetus escape from the vagina. No pain, nor any inconvenience other than that caused by a coloured and fetid discharge, followed this sort of partial delivery. But what was most remarkable was, that she subsequently expelled from the womb once a month, precisely at the menstrual period, at one time the tibia and fibula, at another two ribs, at another the ilium or the second femur, some of the bones of the head, &c., and all without experiencing the least derangement of her health, or being obliged to suspend her domestic duties.

The author promised to communicate hereafter the further state of this woman's health, as well as the mode of issue of the remaining portions of the foetus still retained in the womb. The case, however, abridged and incomplete as it is, is not less interesting to the obstetrician than to the physiologist.

The most important practical deduction to be made from this observation is, that it is not always advisable to have recourse to obstetrical operations in cases in which a dead foetus or a [premature] placenta is retained in the womb, for circumstances have often occurred—and do still daily occur—which exhibit clearly the utility of prudent expectation.

(B) CONCERNING DISEASES OF WOMEN.

ART. 144.—*Derangement of the Liver as a cause of Uterine Disease.*

By Dr. MACKENZIE.

(*Lancet*, Dec. 15, 1855.)

This paper was read before the Medical Society of London, on the 8th December, 1855. In it the author began by drawing attention to the importance of studying the constitutional origin of uterine diseases, believing them to be far more frequently dependent upon constitutional than local causes. In a series of papers published by him in 1852, he had dwelt upon the origin of uterine disease from disturbed states of the nervous system, when the exciting cause makes its impression upon the nervous centres, such as settled grief or anxiety, and impoverished or unhealthy states of the blood. He now proposed to resume the subject by considering another mode in which the nervous system might be unfavorably impressed, and uterine disease equally result—viz., from severe or persistent disease or derangement of any of the more important organs of the body; and as none illustrated the principle more fully than the liver, both from its extensive sympathies and great liability to disorder, he had selected it as the subject of the evening's paper. Having indicated the general influence exercised by the liver upon all the processes of health and disease, he referred to its special influence upon the uterus, founded upon the intimate sympathy subsisting between these organs, &c., and showed,

from statistical data, how frequently derangements of these organs co-exist. Contrary, however, to prevailing opinions, the facts he had collected clearly proved that the hepatic disease generally preceded, and probably occasioned, the uterine, when both co-existed. He believed that it might do so in the three following ways: first, through the medium of the direct sympathy subsisting between the uterus and the liver; secondly, through the derangement of the assimilative processes, which invariably results from chronic hepatic disturbance; and, thirdly, through the debility of the nervous system, which sooner or later inevitably follows upon long-continued derangement of any important organ of the body. From the first of this series of causes could be deduced many uterine affections of a variable and casual character, such as hysteralgia, leucorrhœa, and menstrual irregularity; from the second, many functional and structural lesions of the uterus of a more fixed and persistent character, such as congestion and inflammatory conditions, indurations, hypertrophies, fibrous growths, certain forms of leucorrhœa, and rheumatic hysteralgia; from the third, a predisposition to uterine disease generally, the precise character and nature of which would vary with the nature of the exciting and other occasional causes. In connection with this part of the subject, attention was directed to the generally depressed state of the nervous system which accompanies the majority of uterine affections, and this, from various facts referred to by the author, was regarded by him as being rather due to the coincident hepatic than uterine complaint. The latter had, however, received greater attention, because, whilst the liver was an organ of dull sensibility, the uterus, on the other hand, had extensive sympathies with the sensorial parts of the nervous system, and its functional and structural conditions admitted of the closest scrutiny. The author then proceeded to show how the pathological history of the more common uterine affections supported the views he had submitted to the society, and concluded by adverting to the practical conclusions to be drawn from them. The treatment of these cases should, in his opinion, be conducted with reference to three principal indications—first, to restore the tone and functional activity of the liver by the persevering employment of small, undebilitating doses of mercury, keeping strictly within the tonic and stimulating range of the remedy; secondly, to improve the assimilative functions generally, by careful attention to dietetic and hygienic measures, together with various therapeutical means, which were cursorily alluded to; thirdly, to restore the tone and vigour of the nervous system, which had been impaired by the long continuance of hepatic derangement. The general means adapted to this purpose were treated of, and the author took occasion to lay before the society some observations upon the remedial powers of amorphous phosphorus in certain affections of the uterine organs, attended with weakness and irritability of the nervous system. He had given it a large and extensive trial in these cases, and in some had found it remarkably beneficial. It could be given in doses averaging from ten to thirty grains, and, although insoluble, it readily diffused itself in water or any aqueous vehicle, and could be conveniently given in that way. It appeared to act as a direct tonic or

stimulant upon the uterine system, and when properly prepared could be given without any risk or danger. He had given it with much success in certain cases of amenorrhœa, hysteria, and passive menorrhagia. He had known pregnancy to supervene upon its employment after a lengthened period of sterility subsequently to marriage, and had found it useful in correcting the tendency to miscarriage when dependent upon morbid weakness or irritability of the uterine organs. Under these circumstances, he thought it worthy of a more extended trial, and recommended it confidently to the notice of the members of the society.

ART. 145.—*Singular case of Vicarious Menstruation.* By Dr. BORING.

(*New York Journal of Medicine*, Jan., 1856.)

This case is as follows:

CASE.—A negro woman, about thirty-five years of age, of apparently good constitution, and, with the exception about to be mentioned, of general good health.

She began menstruating at the age of fifteen, and continued regular in this respect until about three years since. Eight years ago, when about twenty-seven years of age, she was attacked with violent pain in the foot, which was succeeded by an abscess, which was lanced, but did not heal. Ulceration succeeded, which continued to move upwards until the leg was involved and became the seat of its permanent location. About three years since, the catamenial discharge began manifestly to decline, and so continued until it ceased altogether, when she was seized with severe shooting pains, passing from the sacro-lumbar, to the uterine region, and to the ovaries. At the approach of her next menstrual period, she noticed a slow oozing of blood from the ulcer on the leg (I give her own account of the matter), which continued about the usual time of that discharge and ceased. At subsequent periods, the same discharge sometimes occurred, while at others, instead, small sacks of blood were formed contiguous to the ulcer, which were obliged to be opened and the blood discharged, before relief could be obtained.

In June last, the ulceration of the leg had become so extensive and threatening, as to require, in the judgment of Dr. —— (whose patient she then was), amputation.

Since the operation, the ulcer being removed, there has been no regular monthly periodic discharge of blood, but, at each monthly period, sacks, such as were above described, formed around the stump of the amputated limb, and required to be lanced for the relief of the patient. I have seen these sacks, and in fact opened them, and can entertain no doubt as to their true nature. So uniform are these singular occurrences in their periodic character, as to have induced this woman to keep a lancet for the purpose, and thus *surgically* to perform the work of menstruation. It should be observed, that she continues without any vaginal discharge, and that the determination of blood to the stump of the amputated limb, together with the formation of these sacks of blood, occur periodically, and observe *strictly* the menstrual periods, as to the time of their recurrence and duration.

ART. 146.—*On the treatment of Uterine Deviations.* By. Dr. TILT.

(Medical Times and Gazette, Jan. 26, 1856.)

Dr. Tilt has been led to believe that, in general, uterine deviations are unattended by symptoms, and are, therefore, only accidentally detected; and that the cases of uterine deviations practitioners are called upon to treat are all complex problems, problems embracing various elements, each one of which has more particularly struck various medical men, and guided their practice. The result has been, that one of the indications of such cases being often alone attended to, partial relief has alone been effected. The radical cure, he says, will be more frequent when all the bearings of the case are taken into consideration. Dr. Tilt also remarked, that women who had suffered much from uterine deviations are likewise affected with inflammatory congestions, erosions or ulcerations of the neck of the womb. The pathologist then infers that the pains experienced, depend upon those inflammatory lesions, at all events the indication is clear,—to heal all ulcerations by the surgical modes of treatment on which Dr. Tilt has dwelt in his work on 'Diseases of Women,' and to subdue inflammation; for, by so doing, the uterine deformity will in some cases be entirely removed, though in others the patient's sufferings will be only diminished. It is also equally true that in other patients the inflammatory affection of the neck of the womb may be cured, and yet they may still continue to suffer. Dr. Tilt further observed, that uterine deviations are often complicated by neuralgia; the indication then is to treat such cases by the means found useful in neuralgic affections. Thus he has removed, or much alleviated, the sufferings of many affected with uterine deviations by the use of sedative injections into the bowels. Dr. Tilt, was, moreover, satisfied that much may be done to relieve the neuralgic symptoms of deviation by hydro-pathic treatment, and observed, that uterine deviations were complicated, and often determined by excessive relaxation of the vagina; detailing a somewhat novel plan of restoring to the vagina the tone which in health enabled it to serve the womb as a column of support. He further observed, that uterine deviations were generally most painful in married women in whom the abdominal walls had been greatly distended by gestation, and it rightly occurred to observers that if they could artificially restore to the abdominal walls the tone they had lost by being once distended, the patient's sufferings would be appeased. Dr. Tilt also spoke, in words of commendation, of Mme. Caplin's and M. Bourgeaud's elastic abdominal bandages. Dr. Tilt further stated, that when the vagina is irremediably dilated, that not being able to contract it by astringents, it was judicious to fill up the distended portion of the vagina, in order to fix the womb, and relieve the patient's sufferings, and for this he recommended the india-rubber air pessary now generally employed in Paris, in preference to Dr. Simpson's stemmed pessary, to which he objected, as the risk was too great. The fourteen deaths which are known to have occurred in Paris, America, England, and even Scotland, from the imprudent use of the intra-uterine pessary, ought, Dr. Tilt says,

to deter practitioners from its use, when we consider that the victims were in the prime of life, and that life was in nowise compromised by the uterine deviations. Some of those cases were most worthily reported by the operators themselves; some, however, were only accidentally brought to light; so it may be fairly supposed that all the fatal cases that have occurred are not known. In the most prudent hands the stemmed pessary has, in some cases, perforated the womb; in others, it has produced flooding to a dangerous extent, or agonizing colics, or metritis, or peri-uterine inflammation, or ovaritis and inflammation of the broad ligaments, or peritonitis, or metro-peritonitis. But the patients were saved! True. Taught the dangers of active treatment, they seek surgical interference as little as possible: but will not the life of many of them be curtailed by the sequela of peritonitis and other pelvic inflammations? Having thus critically commented on the various modes of treating uterine deviations, Dr. Tilt concluded by the following practical remarks:—

1. Treat all ulcerations, and remove all inflammatory affections of the womb, and seek to restore its lost tone to the vagina, by the systematic use of astringents, for by so doing the deviation may be corrected, and the nervous sufferings abated; but, if the vagina be much dilated, support and steady the womb by an air pessary, for it is also true that, in some cases, the inflammatory swelling of the wound disappears when it is steadied by a pessary.

2. Remove all hard swelling of the womb by cold-water douches, vaginal and rectal, and also by a judicious internal exhibition of mercury and iodine.

3. Attack the neuralgia, as such, by narcotic rectal injections, and by hydropathic measures.

4. Apply pressure to the wound, outwardly, by hypogastric bandages; internally, by well-adapted air-pessaries.

5. With regard to the prevention of uterine displacements, the first thought is, to advise a patient not to exert herself too soon after parturition; the next is, to bear in mind the great frequency of inflammation in the pelvic tissues, and its agency in producing uterine deviations, so as especially to direct our antiphlogistic treatment to the inguinal regions when they are painful, and when swelling or fulness can be detected there, after painful menstruation, miscarriage, or parturition.

ART. 147.—*Prolapsus Uteri treated by the local application of Tannin.*
By Dr. C. A. BUDD.

Philadelphia Medical Examiner, March, 1856.)

The plan which is here carried out, and which was originally recommended by Prof. B. F. Barker, of New York, is as follows:—From a double thickness of lint a triangular portion is cut out, of a sufficient size to fill the capacity of the vagina when rolled up so as to form a cone, and near the apex of this cone is attached a piece of string to facilitate withdrawal. The patient being placed upon her back, with the hips slightly elevated, the uterus is replaced in situ, and the lint, soaked in

a saturated solution of tannin, is applied with its apex downward and its base immediately in contact with the os tincæ. This is repeated once in twenty-four hours, for a period of time in accordance with the extent of the displacement. I have usually found a daily application for a period of about a month to be sufficient to perfect a cure. During this time, and subsequently, constipation must be rigidly guarded against, and the state of the general health attended to. The vagina soon begins to acquire its wonted tonicity and contractility, and the lint is consequently obliged gradually to be lessened in quantity; the strain being taken off the round ligaments, also allows them to return to their normal condition. The following cases exemplify the admirable effects of this plan of treatment.

CASE 1.—Mrs. G., æt. 24, the mother of two children, the youngest fifteen months of age, had always enjoyed good health until the birth of her last child. The placenta in this last accouchement (I having attended her in both) was retained over three hours, in consequence of irregular uterine contractions. She has been complaining ever since of pain in the lumbo-sacral region, with bearing-down pains in the hypogastrium; great constipation, with vesical and rectal tenesmus; and a sensation of faintness after an evacuation, leucorrhœa, &c. &c. Upon examination, I found the cervix protruding at the vulva, extensive ulceration extending into the canal of the cervix, inflammation of the posterior wall of the uterus, and enlargement of the organ itself, its long diameter measuring $4\frac{1}{2}$ inches. After three months treatment, these conditions, save the prolapsus, were all removed, the applications to the cervix having been made weekly, and without the aid of a speculum, and the uterus at this time measuring less than three inches, in its long axis. The treatment, consisting of the lint and tannin, was soon after commenced; and in about three weeks' time she was enabled to resume her ordinary duties. She is now four months pregnant with her third child, all treatment having been suspended about six months ago.

CASE 2.—Mrs. S., æt. 20, the mother of one child aged two years, applied to me in July, 1854, suffering from all the symptoms of uterine prolapsus. She had aborted with a three months' foetus about a month previous, but had been complaining for two years before. An examination revealed incipient prolapsus, the cervix lying on the floor of the perinæum, and slight epithelial abrasion of its mucous surface. Two applications of nitrate of silver removed this; and the use, for ten days, of the lint and tannin, effected a perfect cure.

CASE 3.—Mrs. G., æt. 54. A widow, the mother of five children, the youngest sixteen years of age. Had ceased menstruating about ten years previous. She stated to me that upon using the slightest exertion, such as lifting or straining at defecation, her womb would entirely protrude from the vulva. She had used a variety of abdominal supporters, and had attempted on several occasions to wear pessaries of different kinds, and at that time was wearing constantly a T bandage. Upon examination I found the uterus just within the vulva; and, requesting her to lift a chair, the whole organ was protruded, dragging with it the posterior wall of the bladder; it was perfectly healthy in appearance, though somewhat atrophied. I commenced the treatment with the lint and tannin, interdicting active exercise, and in six weeks ceased making any applications. She gradually resumed her ordinary duties, and is now (some two years since) perfectly recovered, and is considered a very active old lady. She has not had the slightest disposition to a return of the displacement, and enjoys excellent health.

I have here given an example of the three different degrees of prolapsus,—incipient, partial, and complete—illustrating the curability of this treatment in each. I could, if it were desirable, cite many others which have been under my observation, and which have resulted, without a single exception, in a perfect and complete restoration.

ART. 148.—*A new Pessary.* By Dr. G. J. ZIEGLER, of Philadelphia.

(*American Quarterly Journal of Medical Science*, Oct., 1855.)

This instrument is composed of two substances, viz.: a metallic base or frame, and a shield or envelop of organic matter. The first consists of steel wire, though that of common iron, or other suitable metal, will probably answer sufficiently well. This is covered with gutta percha, the quantity of which, however, should be as small as is consistent with efficiency, so as not to unduly increase the bulk or weight of the instrument. In general form it resembles the so-called horse-shoe pessary of Dr. Hodge, though materially differing therefrom in some particular features. It is oblong, and so curved longitudinally as to be best adapted to the curve of the vaginal canal, the axes of the inferior and superior straits, and the arc of the pelvic circle. In breadth it gradually diminishes from the base or pubic upwards to the uterine extremity, so as to lessen the lateral distension at the upper part of the vagina. The uterine extremity is slightly rounded. The pubic end is considerably curved inwards, downwards, and upwards on the same plane as the outer limbs, so as to form, when *in situ*, a bridge or opening for the urethra and neck of the bladder.

The size, curves, and thickness of component materials may be varied according to circumstances.

The whole is so simple in shape, material, and manufacture, as to be readily constructed by any one of ordinary ingenuity.

The theoretic value of the instrument, thus presented, rests upon the simplicity and economy of its component materials, facility of construction, general flexibility, small bulk, light weight, cheapness, peculiar shape, the ease with which it may be introduced and removed, its ready adaptation to the form of the parts it is designed to occupy and the mechanical changes incidental to the functional operations of the pelvic viscera, as well as those induced by the general movements of the body. Its practical value, however, must be determined by experience.

ART. 149.—*A new Utero-vaginal Plug.* By Mr. CLEVELAND.

(*Lancet*, Feb. 2, 1856.)

At a recent meeting of the Medical Society of London, Mr. Cleveland exhibited an instrument he had invented to be used as a mechanical plug in certain cases of hemorrhage from the uterus, as well as a means of applying cold in more immediate proximity to that organ. The principle of its construction is as follows:—A common

vulcanized india-rubber air-ball, of about three inches in diameter, sold at the shops as a child's toy, is fastened to one end of a thin metallic pipe, six inches long. At the other end of the pipe is a stop cock, with shoulder fitted to receive the nozzle of a large syringe. The air is to be pressed out of the ball, and kept excluded by turning the tap, when it (the ball) may be folded into a small and compact mass, and introduced into the upper part of the vagina. The syringe is now to be applied, the tap turned, and ice-cold water or a freezing mixture injected into the ball until it is distended to a sufficient size, when the tap may be again turned and the syringe removed. The ball, being strong and elastic, will admit of considerable distension. The apparatus may be used with air instead of water. Mr. Cleveland thought some of the advantages of this instrument over the ordinary means employed would consist in its easy and rapid introduction and removal, its greater efficiency as a plug on account of the equable expansion to which it could be subjected, while the application of cold, the non-absorption of blood, the cleanliness and inexpensiveness of it were worthy of consideration. As regards the latter point, Mr. Cleveland stated that the syringe could be used for other purposes, and the cost of a new air-ball was a mere trifle.

ART. 150.—*On Peri-uterine Inflammation.* By M. GALLARD.

(*Gaz. des Hôpitaux*, Nov. 1 and 3, 1855; and *Assoc. Med. Journal*, Jan. 12, 1856.)

In a monograph, entitled 'Inflammation of the Cellular Tissue surrounding the Uterus, or Peri-uterine Phlegmon,' M. Gallard has collected fifty-three cases of this disease, the observation of which has led him to some interesting results regarding its causes, progress, diagnosis, and treatment.

Peri-uterine inflammation occurs between the ages of fifteen and fifty; most frequently at the middle period between these ages, and generally during menstruation. Abortion and delivery seem equally to predispose to it. Obstetric manipulations, and exposure to cold or fatigue after delivery, do not appear to have any special influence. Nor is previous delivery an essential cause; for the disease has occurred several times in females who have never been pregnant.

The swelling is most frequently posterior to the neck of the uterus; sometimes it is central, sometimes it inclines to one or the other side; sometimes the entire posterior semicircumference of the neck is attacked. Inflammation of the anterior part of the uterus is much more rare; and when it is present, the whole circumference of the neck is liable to participate in the disease. In some cases, the inflammation seizes on only one or the other side, apparently without preference. On examination through the abdominal walls and the vagina, the uterus is ascertained to preserve its normal form and direction. By introducing the index and middle finger of the same hand, one into the vagina, and the other into the rectum, it will be found that the tumour is situated in the recto-vaginal septum, and that it is neither a growth from the posterior part of the body of the uterus, nor retroflexed uterus. When retroflexion of the uterus causes the

body to form with the neck an angle identical with that which is formed by a tumour in the vicinity of the neck, a correct diagnosis can be arrived at only by the use of the hysterometer (or graduated uterine sound). The same instrument may also be necessary to establish the diagnosis between peri-uterine phlegmon and fibrous tumours: the latter often projecting into the cavity of the uterus and rendering it irregular, which never occurs in phlegmon. The diagnosis between peri-uterine phlegmon and metritis is perhaps more difficult; but in the latter disease, the uterus remains movable, and the pain is much greater when the uterus or its neck are pressed on than when the neighbouring tissues are examined; while the contrary is the case in phlegmon.

The prognosis is not unfavorable, as is shown by the want of opportunity afforded of studying the disease by post-mortem inspection. The usual termination of the malady is by resolution: this is very rapid in first attacks, and especially so if the case has come early under treatment. The disease is very liable to return, and the patients recover less readily. After repeated attacks, there is a tendency to induration, and to a chronic form of the disease. Suppuration is very rare. M. Gallard observed it in only three cases out of fifty-three; while resolution occurred in twenty-seven.

The treatment consists principally in bloodletting, mild purgatives, baths, enemata, and emollient injections, during the acute stage and in first attacks. The bloodletting, whether general, or by cupping or leeches to the hypogastrium, or by leeches to the neck of the uterus, ought to be moderate, on account of the anaemic state which often accompanies the disease. M. Gallard advises that the patients should not be kept on a very low diet, and that food should be given as soon as the fever begins to abate. When the pain is very severe and persistent, some laudanum may be added to the injections and enemata. If the phlegmon tends to pass to a chronic condition, M. Gallard advises the use of iodine and iodide of potassium, both internally and in the form of friction. When this is not sufficient, he advises friction with croton oil or tartar emetic, the cautery, small setons, or other counter-irritants. To combat the chloro-anaemic state, tonics and preparations of iron may be useful. The most important preventive measure to be employed by females who are liable to this disease is rest in bed, or at least avoidance of all fatigue, and especially of all excess during the menstrual periods.

ART. 151.—*On Puerperal Fever.*

By Dr. MURPHY, Professor of Midwifery in University College.

(*Lancet*, Dec. 22, 1855.)

At a recent meeting of the Medical Society of London, Dr. Murphy dwelt at some length upon the importance of defining more accurately the true character of this disease. He objected to the terms "puerperal peritonitis," "uterine phlebitis," "arthritis," &c., as correct expressions of what he would prefer to call a puerperal plague. The name puerperal fever is the most commonly used, and therefore the

best understood. He denied that it was puerperal peritonitis, because it did not agree with that inflammation, either in the mode of the attack, in the symptoms, in its morbid appearances, or in the influence of remedial agents. He pointed out the sudden manner of the attack without any obvious cause, the cases where the symptoms of puerperal peritonitis were absent, and yet the patient died of this disease, and presented all the usual morbid appearances in the peritoneum. He compared the morbid changes observed in peritonitis from ruptured uterus with those described in puerperal fever, and pointed out the difference ; and, lastly, directed attention to the great difference in the effect of the treatment most commonly pursued for peritonitis, stating that depletion has been used successfully in cases of puerperal fever to such an extent as fifty ounces of blood, in cases the parallel of which in peritonitis will not bear bleeding at all. Mercury has failed utterly in arresting this disease, and opium is equally useless unless in combination with the most powerful stimulants. He therefore thought it quite incorrect to call puerperal fever "puerperal peritonitis." It seemed to him equally an error to name the disease "acute uterine phlebitis," admitting the greater difficulty of distinguishing each because both were blood diseases. He thought true uterine phlebitis a rare disease ; that the most eminent pathologists have agreed that the lining membrane of the veins is scarcely susceptible of inflammation ; that the uterine veins consist only of a lining membrane, and do not inflame ; if they did so easily, uterine phlebitis would be the result of every severe labour, especially with putrid children. He quoted some cases of true uterine phlebitis and puerperal fever with the veins chiefly engaged, in order to point out the difference. He considered the depositions of pus so frequently found as the evidence of depraved or poisoned blood, and quoted a case of Mr. M'Whinnie's, from the 'Transactions' of the Royal Medical and Chirurgical Society, as an illustration of his argument. Assuming puerperal fever to be the result of a poison, he stated that we did not as yet know what that poison was, but the nearest approach we could make to it was its close resemblance to the poison of putrid animal matter. In illustration he mentioned the effect of the effluvia from Mont Fanen on the Maternité at Paris. He referred to a case of severe labour, in which, having to remove a putrid placenta, his arm afterwards exhibited a malignant pustule, which was very like the pustules sometimes found amongst the meat-slaughterers in the south of France from putrid meat. He mentioned a case of putrid uterus, which produced all the symptoms of so-called puerperal peritonitis, although in the Dublin Lying-in Hospital, where the patient was, there had not been a single case of this fever for a year before or for a year and a half afterwards. He referred to Mr. Henry Lee's researches, and to Weal, in support of his opinion, that the uterine veins do not easily inflame, and concluded by making a marked distinction between pus and putrid matter. He denied that healthy pus was a poison ; its properties were to preserve the circulation from contamination ; decomposed animal matter had the contrary effect, because it destroyed those healthy properties of the blood ; it had less power of coagulation, was easily dissolved into pus, and in such cases pus, or what is called pus, is found everywhere,

infiltrating the uterus, in the liver, spleen, lungs, and even the heart, and all this without inflammation. He therefore objected to the term "uterine phlebitis," as used to express that form of puerperal fever, but did not wish to be understood to assert that a specific inflammation could not form a part of this epidemic, but it appeared to him that we might as well adopt Broussais' doctrine, and call typhus fever "gastro-enteritis," as name puerperal fever by these local inflammations.

(c) CONCERNING THE DISEASES OF CHILDREN.

ART. 152.—*The "Algidité Progressive" of the newly born.*
By M. HERVIEUX.

(*Archiv. Gén. de Méd.*, Nov., 1855.)

The conclusions to which M. Hervieux arrives are these :

1. Under certain circumstances newly born infants are seen to pass into a state which may be designated as "Algidité Progressive," a state which may be confounded with scleroma, but which is different from that affection.
2. This state is marked, not only by progressive failure of the animal heat, but by a simultaneous failure of the circulation and respiration.
3. The majority of the infants thus affected are pale, discoloured, and often shrivelled like little old men, their movements are feeble, their cry is scarcely audible, and their sensibility almost wanting.
4. The three principal causes are congenital feebleness on the one hand, and on the other hand insufficient food and an improper confinement to the horizontal position.
5. Maternal care, and, in hospitals, a sufficient number of kind nurses, are the only remedies.

This resumé, traced by the author himself, suffices to show that this state is no new malady. On the contrary, it is one which is well known to those who have seen much of the diseases of children. At the same time, the affection has never before been so carefully described, and least of all in the progressive cooling of the system which distinguishes it.

ART. 153.—*Chronic internal Hydrocephalus treated by injection of Iodine.* By Dr. J. M. WINN, Physician to the Metropolitan Dispensary.

(*Lancet*, Nov. 3, 1855.)

The following case, in Dr. Winn's opinion, is calculated to show that iodine may be injected into the brain without causing any poisonous effect, and that the strength of the injection may be so regulated as to produce an amount of stimulation sufficient to restore the balance between the secreting and absorbing functions, without causing destructive inflammation of the cerebral tissue. In a case in which

Dr. Winn merely tapped the brain, without employing an injection, the fluid began to re-accumulate in the head on the third day; whereas, in the present instance, where the injection was employed, there was no perceptible increase of fluid on the tenth day after the operation.

CASE.—The patient was a little girl, fifteen months old, who was afflicted with one of the most enormously distended heads from dropsical effusion I ever witnessed. Although the child's mother attributed the disease to a fall that it had sustained five weeks after birth, and which was followed by convulsions, she admits that the infant had a peculiar expression of the eyes, and was subject to startings of the limbs soon after it was born. I have, therefore, no doubt that the disease was congenital. The fall probably accelerated the effusion, as the head began to enlarge rapidly after the accident; its dimensions had gradually increased up to the day when I operated, at which time it measured twenty-four inches and a half in circumference. The bones of the head had acquired considerable thickness, and were united at the lambdoidal suture, and partly so at the inferior portions of the coronal suture. The anterior fontanelle measured about four inches in each direction. The child had an anæmial appearance, the natural consequence of having been confined in one of the closest and dirtiest courts in Spitalfields; in other respects it was tolerably healthy, and its bodily functions were duly and properly performed. Its perceptions and memory were fairly developed.

On the 3d of October, with the concurrence and assistance of Mr. Childs, I tapped the head, and after evacuating seventy-two ounces of a straw-coloured serum, two ounces of a solution of tincture of iodine (fourteen minims to two ounces), previously raised to the temperature of the body, were slowly injected into the brain, where it was allowed to remain. A hydrocele-trocár was used, and the head punctured in the coronal suture, about two inches below the lower angle of the anterior fontanelle. Although compression of the cranium was maintained during the time the fluid was escaping, it was impossible, owing to the strength and resiliency of the cranial bones to prevent a quantity of air from entering the skull. After the operation the head was firmly bandaged, a pad having been previously placed over the superior fontanelle, in consequence of its having become much depressed during the evacuation of the fluid. The child bore the operation well, and did not appear to suffer much pain.

October 4th.—Lies in a tranquil and comatose state; convulsed occasionally during the night; skull tympanitic; bowels and kidneys have not acted; skin warm; took the breast once; has also swallowed half a cupful of arrow-root, flavoured with port wine. I ordered calomel, two grains, to be taken immediately.

5th.—Bowels have acted freely; conjunctivæ suffused, and discharging abundance of mucus; pupils sensible to light. It has unfortunately happened that the mother's sister committed suicide in the course of the night; and in consequence of the shock which her nervous system sustained on hearing of her relation's death, I deemed it advisable to order the child to be kept from the breast during the next twelve hours. I prescribed milk and beef-tea.

6th.—The child sucks freely, and looks better; eyes less suffused. The head, although still tympanitic, has become so far reduced in size that I found it necessary to tighten the bandage. Bowels open.

7th.—Not so well; surface cold; legs rigidly extended; refuses the breast, but swallows whatever is placed in its mouth; eyes have become more suffused. To take chlorate of potass, two grains and a half, every four hours.

8th.—Has rallied from the partial collapse of yesterday; skin warm; took the breast once; takes a sufficiency of nourishment; muscular rigidity has subsided; bowels confined; urine scanty. There is not the slightest sign of a return of the dropsical effusion. To take a calomel purge, and to repeat the chlorate of potass mixture.

9th.—Sucked once only; muscular tremors of the right arm; has passed one copious and dark-coloured motion. To take mercury with chalk, one grain, every six hours, and sesquicarbonate of ammonia, one grain, every four hours; to omit the chlorate of potash.

10th.—No material change; has taken a considerable quantity of beef-tea and milk; bowels confined. Ordered to take castor oil, and to continue the mercury with chalk every eight hours.

11th.—Has lost ground again; feet spasmodically adducted; bowels freely opened by the oil; takes food less freely. On removing the bandages from the head, it was found that the protuberances of the frontal bone were slightly inflamed and ulcerated to a small extent on the right side. After bathing the head the roller was carefully readjusted.

12th.—Some slight improvement; appeared to recognise her brother for the first time; takes food more freely; eyeballs spasmodically depressed.

13th.—Gradually sank, and died at half-past six a.m.

Being exceedingly anxious to obtain an examination of the head, I called on the parents the following day, and, to my annoyance, found them violently opposed to an inspection of the body. It was not until after half an hour's earnest talking that I succeeded in obtaining their consent, and then only on condition that I was not to use either a saw or hammer.

Autopsy, twenty-seven hours after death.—Owing to the strength and partial ossification of the bones, and to my being restricted to the use of a knife, the sphere of observation was greatly limited. I succeeded, however, in determining the following interesting facts: The head had not enlarged in the slightest degree since the operation. The cavity of the arachnoid contained a large quantity of inodorous gas, and about six ounces of serum. The arachnoid itself was quite healthy. The brain, which was lying collapsed at the base of the skull, was much more vascular than natural, but its consistence was normal. The marks of the convolutions were quite distinct. The lateral ventricles were empty, and enormously dilated; their lining membrane was thickened, but smooth. On one side a small pellucid cyst, the size of a grape, was attached to the inner wall of the lateral ventricle by a small vascular pedicle. The cerebellum, the cerebral nerves, and other structures at the base of the brain, were in a natural condition. No fluid was discovered in the spinal canal. The opening made by the trocar through the right lateral ventricle had evidently become wider since the operation; the edges of the aperture, nevertheless, presented a smooth and healthy appearance.

ART. 154.—*Case of Chronic Hydrocephalus cured by spontaneous evacuation of the fluid.* By Mr. L. W. SEDGEWICK.

(*Medical Times and Gazette*, March 15, 1856.)

In an early volume of the 'Medico-Chirurgical Transactions,' Dr. Barron relates a case of chronic hydrocephalus, in which, during the latter stage, a bloody fluid oozed from the mouth and nostrils, and where, after death, there was found to be an aperture between the

cranium and nose; but we do not remember a case like this of Mr. Sedgewick's.

CASE.—The patient, who was two years old, had always had a large head, a heavy countenance, and a sallow complexion. His father was healthy, his mother scrofulous; they had lost one or more children previously from hydrocephalus. For some months his appetite had been capricious, his bowels irregular, and his abdomen large. He had been gradually getting more listless for a week back; he laid his head down frequently, and complained of pain in it. He slept badly, frequently starting up with a scream. There was little heat of skin, a quick but feeble pulse, thirst, rather sluggish pupils, no appetite, relaxed slimy motions, large and hard abdomen; his whole aspect betokened scrofula. He took salines, and *Hydrargyrum cum Cretâ*, and had occasional blisters behind the neck; the pulse and general symptoms did not warrant depletion. Gradually, there became more and more evidence of compression of the brain; the head increased in size, the anterior fontanelle got very wide, the pupil was dilated, there was occasional stertor, considerable insensibility to external impressions, pulse slower, and respiration oppressed. At the end of five weeks coma was imminent, almost present, and I looked for speedy dissolution; but one morning, about six weeks after the commencement of the more decided symptoms, I found him much better. There was renewed intelligence in the face, and more vigour in the limbs; the pupil was more sensible to light, and the appetite considerably improved. During the night there had been a very considerable flow of clear fluid from the nostrils, often so rapid as to run in a thin stream, and so copious as to soak the pillow for a considerable distance. The mother was catching the drops on a handkerchief while I was there; the eyes were suffused with tears. After the first twenty-four hours, the drain of fluid from the nose was not so copious; but it continued, in gradually diminishing quantity, for some days. During this time, the head symptoms had been rapidly subsiding, and, in a very short time, he had attained his usual state of health.

A twelvemonth afterwards, the same series of head symptoms presented themselves,—the dilated pupil, the disturbed sleep, the stupor, the coma. All things indicated extreme effusion of fluid within the cranium, and all things foretold a fatal termination; even with the recollection of the extraordinary cure of the last attack, I could not hope for recovery. He was treated in the usual way, but for some weeks with no result; when, again, just as death seemed closest at hand, did the same wonderful change in the symptoms appear, coincidently with a positive flood of fluid from the nostrils. All indications of disordered brain speedily subsided, and, under the use of cod-liver oil, the child got fat and quite well.

There is little needed in the way of comment upon this case; there could be no mistaking its character; the symptoms were plain to read, and the nature of the relief furnishes sufficient demonstration of the offending cause. That there was fluid within the cranium, compressing and gradually overcoming the brain, was evident; but it was not quite so easy to determine the exact site of the disease. Whether the fluid was contained in the sac of the arachnoid, in the subarachnoidean space, or in a cyst, it is impossible to say; I am inclined to believe that it was in the arachnoid sac.

ART. 155.—*A peculiar form of Insanity in Children.*
By M. DELASIAUVE.

(*Journ. of Psychol. Med.*, Jan. 1856.)

M. Delasiauve brought this subject under the notice of the Société Medico-psychologique, February 26th. This affection M. Delasiauve described as having for its fundamental character a disturbance of the intellectual faculties, manifested more or less by confusion of ideas, but was always complicated with ecstatic phenomena, the paroxysms of which varied in duration, and in some cases returned at short intervals. The patients remained several hours of the day as if wrapt in a sort of mystical contemplation. Often the attention was fixedly directed to one spot, from which not even the most vivid impressions could arouse them. In other cases the attention was alternately directed to different points. The limbs and body were placed in the most grotesque attitudes and positions; sometimes the head was bent in forced directions, sometimes the arms and legs remained elevated and extended. In some of these cases there was seen slow and measured jactitation, after the fashion of Punchinello. Of the eight or nine cases seen by M. Delasiauve almost all were cured within a limited period, in some cases with relapse. Bathing, sulphate of quinine, and attention to hygiene, were followed by successful results.

Although these cases were important, they did not, in the opinion of M. Delasiauve, deserve a special nomenclature as a new form of mental disease. The phenomena of these cases do not belong to mania, nor specially to early age. They are met with in those forms of partial insanity attended with convulsions, such as catalepsy and epilepsy. The ecstatic state corresponds to a slight degree of cerebral erethism, whereby the intellect, acting through volition, is subordinated to the automatic organic system. Hence, if this view be correct, ecstasy may take place whenever from moral or physical causes the normal activity of the nervous centres is increased, and favours the production of spasm. The preference of these attacks shown towards early age may be explained by the greater impressionability of that time of life. In some instances this special predisposition is referable to onanism, or intimidation, which either depress or concentrate the nervous sensibility. Several of the patients were addicted to the solitary vice, nearly all had been the subject of cruelty or unjust rigour, or had been frightened by exaggerated representations of their offences, and by fear of the wrath of God.

M. Moreau had met with instances of this form of affection, and regarded them as cases of epilepsy, attended with a degree of stupor, offering some resemblance to ecstasy.

M. Belhomme inquired if M. Delasiauve considered that an analogy existed between ecstasy and catalepsy?

M. Delasiauve in reply, stated that he recognised in ecstasy a state of muscular immobility without contraction, accompanying a particular cerebral disorder, while in catalepsy there was abolition of feeling with tetanic rigidity. The difference is one rather of degree

than of kind. Ecstasy seems to be a slighter degree of this cataleptic state.

M. Alfred Maury, mentioned an epidemic melancholy which had prevailed among the inhabitants of a district in Siberia, some years ago, under the influence of a Buddhist prediction. In this disorder the sufferers uttered a sad monotonous chant, concluding with a paroxysm of excitement, which was followed by insanity or restoration. The moral and physical condition of this people resembled that of childhood.

M. Buchez did not consider that either of the speakers had elucidated the phenomena related by M. Delasialauve. He would ask whether ecstasy occurring in the insane and epileptic is of the same nature as ecstasy occurring in the previously healthy and in those persons who can induce the ecstatic condition by profound meditation? He further asked, whether ecstasy and catalepsy are physiologically the same? whether they might exist separately? whether they have the same organic seal?

M. Baillarger had seen cases of melancholy stupor pass into ecstasy. He objected to the use of the word "physiological" to express conditions referred to in this discussion, and which he considered as strictly pathological. For instance, if ecstasy be a suspension of the intellectual powers, how can it be said to be a physiological state?

M. Alfred Maury compared the state of ecstasy to the passing delirium of fever, which, frequently recurring, may pass into insanity.

M. Buchez considered that there was a great analogy, but not an identity between the ecstasy occurring in health and that occurring in disease. M. Buchez further illustrated his opinions by reference to the state of internal abstraction or contemplation under which musical composers, without the presence of a musical instrument, veritably hear the pieces they compose; and a painter sees in imagination the persons he transfers to his canvas.

M. Ferrus asked if a person in a state of ecstasy was, medico-legally speaking, responsible for his acts? M. Ferrus promised to lay before the Society the particulars of some cases bearing upon this point.

ART. 156.—*On the Pneumonic Catarrh of Infants.*
By M. TROUSSEAU.

(*Dublin Hospital Gazette*, July 5, 1855.)

Diseases of the lungs present very different characters in infants, according as the children happen to be newly born, at the breast, or growing up. The lung of the newly born infant becomes hard and impervious to air, hepatized, as in the third stage of pneumonia in adults. This state of impermeability of the lung has been described as a *return to the foetal state*. In a physiological point of view, however, I must declare this to be quite erroneous.

From the first month after birth to the fourteenth, infants are subject to a pulmonary inflammation, called lobular or infantile pneumonia. In this disease the pulmonary catarrh is the chief complaint; the

pneumonia is secondary ; so in place of calling it catarrhal pneumonia, a name given to it by several practitioners, I prefer the more logical and expressive name of pneumonic catarrh.

Pneumonia is an acute affection, which either resolves quickly or kills rapidly. There is, as it were, a great battle, the issue of which is soon decided on one side or the other. Catarrh (bronchitis), on the contrary, is a series of skirmishes ; the attack diminishes one day to be augmented on the morrow, and the child whose lungs are repeatedly attacked, either in the same or different parts, generally succumbs.

Pneumonic catarrh is most frequently caused by a simple cold, a slight febrile attack, or coryza. The mother of the child, although the most affectionate and anxious, sees no cause of uneasiness. Suddenly the fever is lighted up, great oppression comes on, and the child presents soon most alarming symptoms. The face becomes congested in a remarkable manner, the cheeks and lips are livid, the skin is hot and very dry, the dilatation of the alæ of the nose very considerable and almost constant ; the epigastrium is retracted towards the vertebral column, the diaphragmatic belt becomes more marked, forming what is called the *peripneumonic fissure*. Orthopnœa increases ; the pulse gains an extreme frequency, rising to 120, 140, or 160 in the minute. Percussion is a mode of exploration both difficult and uncertain in the diseases of infancy. If, however, the hand be applied flat upon the thorax of the child while crying, it will feel the vibration of the voice much more distinctly upon the diseased than upon the healthy side. When about to auscultate the chest, care must be taken not to alarm the infant ; it should be placed upon its nurse's knees, and then the physician can apply his ear to the posterior and lateral regions. A subcrepitant râle is most frequently heard, sometimes preceded by a mucous or sibilant râle ; it is not rare to hear crepitation as fine as in the adult. Bronchial breathing is heard during inspiration, but chiefly during expiration ; but it has neither that dryness nor clearness which we observe in the adult ; it is heard most frequently not altogether at the base, but at the superior part of the inferior lobe of the lung. The presence of the souffle can perhaps be determined in four or five different parts of the chest. The signs furnished by auscultation are very changeable ; thus you may not find to-morrow, in a certain part, the souffle which you heard this evening. This arises from the principal bronchial tube leading to this part of the lung being blocked up with mucus, and thus the air is directed to other parts. In many cases we know but too well that the disease is both of long duration and liable to frequent relapses. A pneumonic catarrh remains fifteen days, a month, six months, or even more. During the course of hooping-cough, you may have acute attacks of it five or six times ; never entirely ceasing, the malady becomes chronic, an important differential character from pneumonia of adults.

The anatomical lesions are well marked ; besides the inflammation and tumefaction of the bronchial mucous membrane, we see a number of small indurated lobules, between which the tissue of the lung is healthy. The surface of the organ presents a marbled appearance. Independent of these indurated lobules, which invade sometimes a

portion of a lobe, sometimes the whole lobe, we remark other lobules, of a violet-red colour, indicating a pneumonic inflammation of the first degree, whilst here and there these masses are harder, and form projections, when the lung is collapsed. The microscope discerns globules of pus in these red lobules. In fine, we find lobules of a yellowish colour in the third stage of inflammation.

Pneumonic catarrh is followed by a special lesion, viz., pulmonary abscess, little cavities filled with pus, which in a single lung sometimes amount to the number of 100, 200, or even 500. It has been supposed that these pulmonary abscesses are nothing more than the dilated vesicles of exaggerated emphysema; but I think that the anfractuositites which are seen in these cavities arise from a number of vesicles much broken up. It is a difficult point often to determine between pulmonary phthisis when the vesicles are filled with pus, and the third stage of pneumonia.

ART. 157.—*On Congenital Phymosis.* By Mr. J. COOPER FORSTER, Surgeon to the Royal Infirmary for Children.

(*Medical Times and Gazette*, Nov. 17, 1855.)

Every surgeon must have been frequently struck with the anomalous diseases of a purely sympathetic character to which children are liable; diseases arising simply from irritation, yet assuming frequently a very serious aspect; every one, indeed, must have observed how the irritation of a tooth, or undigested matter in the bowels, gives rise to the most apparently cephalic symptoms, and the mere removal of the former is the means of immediately restoring the child to its natural health. In frames so delicate and susceptible we are not surprised to find such results arising from such trifling causes; and of a like nature is the subject of this communication, which has reference to a cause of disease as trifling as the above mentioned, as easily removable, though requiring most frequently surgical interference.

“The subject is that of urinary irritation arising from long pressure, or from congenital phymosis. Cases of this affection are rarely to be seen in hospitals, except among the out-patients, but are of very frequent occurrence. I find no special remarks concerning them in our own literature, and, therefore, having during the last few years seen many instances, I have deemed the subject worthy of a few observations.

“It is not my intention to report several cases all having more or less the same symptoms, but to relate the most common features of one as a type of the class.

“A boy is brought for advice, varying in age generally from two to ten years or more, (adults even may apply, as they are by no means free from the same symptoms arising from the same cause,) and the mother complains that for some time the child has wetted the bed, he has frequent desire to pass his water, and seems to suffer a little pain in the act of micturition; the urine also, instead of passing freely, frequently distends the prepuce, and trickles away through the constricted opening in a very slow and irregular manner; the little

patient also frequently seizes the penis, as if it itched, and elongates the prepuce. These, and other symptoms, resemble calculus in the bladder, though, as a diagnostic difference, I have never known any blood passed by these children, and they do not suffer any inconvenience from riding or jumping; the urine also is quite natural, and in all respects they are in perfect health. If the surgeon is content with the description given by the mother, alkalies or iron are administered, sometimes with temporary relief, but more frequently with no benefit. If the penis be examined, as should always be done in such cases, the boy is found suffering from a lengthy, puckered, and contracted condition of prepuce, any attempt to withdraw which over the glans, is attended with much pain to the patient, and therefore a view of the glans, in most cases, is quite impossible. The orifice of the urethra is sometimes, with a good deal of trouble, to be brought into view, though more frequently the constriction of the prepuce is so great as totally to prevent even that part being exposed. In those cases where the whole of the prepuce is distended with urine each time the child passes his water, there is also frequently some ulceration on its under surface. As the cause of the disorder appears to arise from nature having been too prolific in the supply of skin at the extremity of the penis, every nurse should be directed carefully to wash away the secretion that may form, which may easily be done by withdrawing the prepuce from the glans; and if that simple expedient were adopted in early infancy, no inconvenience would, I believe, ever result. Where the symptoms are such as I have described, there is no doubt that the operation of circumcision is the surest means of relief; indeed, I think if this operation was more frequently performed upon young children, even when suffering from much less severe symptoms than I have described, (if the above-named precautions have not been adopted by the nurse,) it would do much to prevent the occurrence of many of the diseases and troubles that occur in after-life. Of the advantages of circumcision to adults every surgeon must be fully aware. Who has not seen the annoyances of retained secretion, syphilitic sores under the prepuce, the swelling accompanying gonorrhœa, &c., as the result of congenital phymosis? And I have no hesitation also in saying, that it is the exception to see a case of cancer of the extremity of the penis, where the patient has not also been the subject of this malformation. No doubt the most natural state of the penis is with a covered glans, but, at the same time, the prepuce becomes a source of evil where the glans cannot be uncovered for the purposes of ablution.

"With a part so plentifully supplied with nerves, it is not to be wondered at that any undue irritation at the extremity of the penis should give rise to symptoms connected with the bladder, and therefore the constant contact of the prepuce with the orifice of the urethra, sufficiently accounts for the frequent desire to micturate complained of by these children. The irritation and itching have their origin in the masses of filthy secretion poured out by the glandulae Tysoni, which secretion is seen lying in a ridge behind the corona, becoming inspissated, and having no means of escape, frequently causes a superficial ulceration in the part in which it is

lodged, though occasionally there is such perfect union between the prepuce and glans as to leave little space for its collection. These few remarks would scarcely be complete without a description of the mode of performing the operation of circumcision which I have found most useful. After the chloroform has been administered, the prepuce, close to the extremity of the glans, should be seized transversely with a pair of dressing forceps, and all the loose skin removed with a knife; the skin of the penis immediately retracts to a level with the corona, or not quite so far back; the prepuce resting on the glans, not being elastic like the skin, is then to be slit up with a sharp-pointed bistoury (on a director or not, as the surgeon deems fit), and the part on each side turned back. A piece of lint placed around the cut edges, which are now closely in contact, is all that is required; sutures are quite unnecessary, no bleeding occurs, and in the course of a few days the whole unites, and leaves a very elegant organ for after use. During the performance of what I may call the second part of the operation, adhesions may be found more or less uniting the prepuce to the glans, and occasionally entire agglutination of the two parts is seen. The separation is easily accomplished. I need hardly give the caution not to slit up the urethra, which I have known accidentally done."

REPORTS

ON THE

PROGRESS OF THE MEDICAL SCIENCES.

January—June, 1856.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON PRACTICAL MEDICINE, &c.

Cell Therapeutics. By WILLIAM ADDISON, MD., F.R.S.
(8vo, Churchill, 1856, pp. 84.)

IT is well known that granulations and pus are both forms of nucleated cell-growth, and common in disease and in processes of repair. All cells have a property of selective absorption, and the main point of Dr. Addison's argument is, that the opening of blood-vessels for the junction of new ones without bleeding—ulceration and sloughing—the discharge of poisons from the blood—scarlet fever and smallpox—and sundry changes of texture observable in organic or parenchymatous diseases, are phenomena referrible to the absorptive properties of nucleated cells. For instance—

“ Of an abscess in a gland of the groin from ulceration in the foot, the argument is, that a poison, entering the circulation by absorbent vessels, is arrested and discharged by the *cells* of the gland in the thigh. The phenomena being inflammation, abscess, and purulent discharge. An *indiscriminate* absorption by vessels, may thus be supposed, rectified by the *discriminate* activity—the metabolic processes—of cells.”

The following extracts will put our readers in possession of the main object of Dr. Addison's work :

“ 1. Reparation in the human structure is not limited to wounds and fractures from mechanical violence. It extends to injuries of the blood, and to disease in the parenchymatous organs. It is accomplished by a new or preternatural cell-growth, in the common vascular tissue—and of this growth there are two prominent forms,—the one a vascular form, ‘Granulation,’ the other a deciduous form, termed ‘Pus.’

“ 2. The cells of granulations and pus exhibit peculiar relations to the surrounding parts,—a property of selective absorption. Those of granulations open blood-vessels for the junction of new ones, and are elements of repair in virtue of a capacity, in the cells or cell-contents, of metamorphosis into fibrous tissue. Those of pus are elements of repair, in virtue of the deciduous mode of cell-growth. The same sort of vital activity which causes leaves to fall in autumn, discharges sloughs from sores, and poisons from the blood, without bleeding.

“ 3. During the formation of granulations and pus, the natural

blood-vessels undergo a species of retrograde metamorphosis, for the fibrous coat of the vessels becomes the seat of new cell-growth. A state of growth in which we know in the embryo, blood-vessels bleed upon the lightest touch, and multiply with great rapidity.

"4. The formation of granulations and pus are accompanied by phenomena termed 'Inflammation.' That is to say, inflammation is the sign or signal of a change commencing in the coats of the blood-vessels, and thereby is distinguished from congestion,—in which there is no morphological change in the coats of the vessels."

"In support of these conclusions, the following reflections occur. In mechanical injuries the process of repair has at first a pathological aspect. We say inflammation arises. On the other hand, in gout, smallpox, scarlet fever, and measles, inflammation vindicates its therapeutical purport by the limitations it observes, by the order and regularity of its times and stages, and by the recovery of the person concomitantly with a discharge of morbid secretion or preternatural cells at the sites of inflammation. Cell therapeutics, after mechanical injury, has then a mixed pathological and physiological aspect. The pathological part is the first part. The injury has been inflicted and there is need of reparation. This is responded to by new cell-growth in the vascular tissue, the primitive form of growth of that tissue. The new growth requires for its support new blood-vessels, and new blood-vessels appear. But these new vessels cannot carry on the circulation without joining to openings in the older vessels. The openings are made by the absorptive property which all cell-growths possess. And thus the new growth establishes itself at the expense of the existing vascular tissue. The proper healing or repairing part of the process cannot be said to have commenced while these operations are in progress—while cell-growth and new blood-vessels are increasing. It is only when these have accomplished their part—when cell-growth is beginning to give place to fibrous connective tissue, and new blood-vessels are diminishing in number—that regularity and success entitle the phenomenon to rank as the process of repair.

"In like manner, in blood distempers the phenomena have a mingled pathological and physiological aspect. In smallpox, the pustules arise with inflammation. These are pathological to the vascular tissue; they alter the form and properties of the blood-vessels. But the new cell-growth performs a therapeutical act as respects the blood, the cells of the pustules transferring injurious matter from the circulation to the solid texture for discharge.

"Cell-growth in the vascular tissue or inflammation—whichever term we employ—is at all times, and from whatever cause arising, a thing of mingled good and evil, even when accomplishing the process of repair with success. And we may agree, when the good purpose is evident and in course of fulfilment, to call it the process of repair, and when the evil predominates, a disease. This would be a consistent and intelligible distinction. But, to call inflammation when it observes a regular order, strict limitations, fixed periods, and is followed by cure, as in smallpox, scarlet fever, measles, and gout—a disease, when the distemper is in the blood—and inflammation and

suppuration in burns and compound fractures, often greatly more protracted, more dangerous and exhausting to the patient *the process of repair*, as though they had nothing in common with each other, seems 'an inappropriate form of mental apprehension to apply to the facts which cannot give rise to any exact or substantial knowledge.' Whereas, if the evidence produced shows that forms of inflammation—described by Mr. Hunter as adhesive, suppurative, and ulcerative—and the process of repair, are both resolvable into forms of new cell-growth in the common vascular tissue; that granulation, suppuration, and ulceration in burns, compound fractures, necrosis of bone, tubercular consumption, &c., separate the dead from the living parts, sever bonds of union, interrupt the continuity of blood-vessels and create new ones without bleeding;—that vesicles, pustules, or abscess, are appointed means for the discharge of poisons from the blood, then the subject assumes altogether a physiological aspect, and therapeutical operations are based upon the properties of cells."

"New cell-growth in the vascular tissue is, we contend, the natural provision which severs and opens blood-vessels without hemorrhage. Granulation, the natural provision for the repair of solutions of continuity; and pus, for the throwing off of sloughs and poisons. If granulations are wanted, and they appear, they belong to the category of therapeutics. If they be in excess, so much of them as is in excess belongs to pathology, the rest are physiological. If pus be required to loosen and discharge a slough, and pus appears and performs the task, it belongs to the category of therapeutics; but if pus, having performed its office, continues to form and be discharged when it is not wanted, we treat it as we would any other pathological growth—not by encouragement but repression. And thus it is that inflammation has two bearings."*

"‘Granulations’ and ‘Pus’ have the most general type of organized structure—they are forms of nucleated cell-growth; we find them possessing the essential elements of glandular organs. In their *elementary composition*, and in the *acts* to which they are subservient, there is sufficient to excite an earnest attention. The sore occasioned by a common blister is an *excreting* surface; there is a copious discharge of cells from it, yet the influence of the blistering fly may be traced, extending by *absorption*, to the urinary organs. In other cases the influence of medicines and poisons may be communicated to distant organs if the medicine be brought into contact with the granulations of a wound, although from these granulations there may at the time be a copious discharge of pus. An abscess is both an excreting and an absorbing surface. It may be regarded as a kind of new organ developed in the body. In the formation of an abscess there is purulent accumulation or cell-growth, which forms the principal part of the swelling; and there is also at the same time absorption of the vascular tissue. Sores give rise to different kinds of pus, and we can make no doubt that the different parts of which the blood is composed, will come away more in one kind of pus than in another. The poison of smallpox comes away in the matter of the pustules.

* See the subject more fully treated in ‘Healthy and Diseased Structure,’ p. 69, &c.

Each pustule acts as a temporary new organ for the excretion of the abnormal material from the blood. And when the pustules have performed their task, they fade away and disappear, as do many forms of temporary cell-growth during the development of the germ. There is no natural organ for the elimination of smallpox poison from the blood, therefore the common vascular tissue of the outer integument takes on the excretory function, and cells of the most general type eliminate the poison.

“A common issue is established as a drain to the blood. But there can be no drain except in conjunction with cell-growth. A sore having been made, and granulations established, the peas are inserted to prevent them healing. These foreign bodies, in contact with the granulations, fulfil the conditions we have supposed in tubercular consumption, in necrosis of bone, carbuncles, diseased joints, &c.; they are hindrances to the process of repair; they alter the destination of the young and growing cells, so that instead of becoming fixed in the granulations and proceeding to a fibrous transformation, they are checked, become deciduous, and fall away as cells, at the same time carrying out from the system the materials they have taken for their own growth from the blood. Such an operation as this upon any great scale must impoverish the blood. But in a smaller degree, and under particular circumstances—those, for example, in which an issue is required—the circulating fluid, by such an action, may be relieved of excrementitious matter, as it is by the several natural actions of the same kind. The granulations of the issue becoming a preternatural excretory organ.”

For the distinction Dr. Addison points out between the common vascular tissue—blood-vessels and connective tissue—and the parenchymatous elements of the different organs, and upon which he grounds his argument for the therapeutical action of granulations and pus in organic diseases, we must refer to the work itself, which we do, with a hearty recommendation to the perusal and attention of our readers.

Observations on the Life, Disease, and Death of John Hunter, in elucidation of the nature and treatment of Gout and Angina Pectoris, being the oration delivered before the Hunterian Society, at its thirty-sixth anniversary. By JOSEPH RIDGE, M.D., F.R.C.P. (Pamphlet, Churchill, 1855, pp. 47.)

Dr. Ridge makes the life, disease, and death of this great man the text for certain valuable comments upon gout and angina pectoris, which we are glad to recommend to the attention of our readers.

“Enough, I trust,” says Dr. Ridge, at the end of his oration, “has been done in the development of clear and definite principles to enable the youngest of my hearers subsequently to perceive, in large portions of his notes I have not read, the great importance of maintaining, for depurative and other objects, the fluid supplies (always without excess), even by the simple recourse to a tumbler of hot water at night; the quiet occupations and contemplative habits, the

softer sentiments and more benign emotions that may be indulged in, whilst regular exercise on level ground to an extent that can be taken is demanded, to prevent accumulations of fat also, and further degenerations; to see the necessity of regarding angina, not as a mere assemblage of symptoms, but neglecting the name, as a manifestation of diagnostic signs, which, with attentive physical examinations, should lead us to an accurate knowledge of the state of the circulation at each part of the heart, and of the system at large; to understand its relations to gout through the effects of excessive and of surcharged blood, and of the deteriorated fluids and solids of the progenitor, and the reciprocal promotion of external and of internal podagrous affections by its varying congestions, where the disposition or material exists; to notice the futility and mischief of an administration of antispasmodics and purgatives without a discrimination, as precise as can be obtained, of the condition of organs and of blood-vessels, of structures capable of spasm, and of nerve-cells, conducting tubes, contents, investing sheath, and membranes, at different portions of an entirely connected nervous apparatus, though diffusible stimulants, warm aperients, and carminatives may be urgently demanded;—of an exhibition of narcotics, which need additional caution in their use, from a tendency to diminish further cardiac and other movements in the degree to which sensation is controlled, and equally under the advantages of a local treatment of neuralgia at distant parts by sedatives which may get into the blood in dangerous amount; to recognise the care we should exert to prevent inflammation and its products, and promote absorption, without lessening power to degrees that lead to irremediable dilatations and a premature decease; and lastly (that I may appropriately include a rule formerly deduced from a prolonged clinical observation of more common forms of heart disease), to comprehend the mode in which we should limit to a removal of its causes all attempts to check that hypertrophy, which, when not opposed by obstructed coronaries, and other local and various constitutional conditions, is established, under permanent impediments, by a physiological law announced by Hunter, that provides for the requirements and the purposes of the capillaries and of the veins, and obviates, in great measure, the predominant evils of arterial and of cardiac delay."

Lettsomian Lectures on Insanity. By FORBES WINSLOW, M.D., D.C.L.,
Editor of the 'Psychological Journal.' (8vo, Churchill, 1855.)

We have to apologise to our readers for not before bringing under their notice this volume. It has excited in the medical and literary world a considerable amount of attention, and the critics speak in the most unqualified terms of its contents. Dr. Winslow, when Lettsomian Professor of Medicine at the Medical Society of London, delivered three lectures before that learned body, viz., 1st, on the "Psychological Vocation of the Physician;" 2d, on the "Medical Treatment of Insanity;" and, 3d, on "Medico-Legal Evidence in cases of Insanity." These lectures constitute the volume before us. The first lecture is

an elaborate exposition of the psychological or spiritual duties of the physician. Dr. Winslow enters fully into the consideration of this important matter, and points out, we think successfully, that the physician has higher, more noble and exalted duties than those commonly assigned to him. Dr. Winslow discusses at length the functions of the physician as a philosopher, a metaphysician, a poet, and as a cultivator of polite literature. He demonstrates the importance of all these branches of knowledge to the physician, not merely as ornaments, but as valuable practical agents in the practice of his profession. We do not think Dr. Winslow has at all over-estimated the importance of a more general acquaintance with polite literature, as a branch of medical study. The truly accomplished physician *cæteris paribus* is most likely, not only to elevate medicine as a science, but to practise his art successfully; and this Dr. Winslow fully demonstrates. When speaking of the cultivation of poetry, Dr. Winslow remarks—

“In forming an estimate of the value of any branch of philosophical inquiry, we must be cautious how we apply the interrogatory, *cui bono?*—neither must we adopt as our model of imitation the mathematician who, refusing to admit that any advantage could result from the study of a science not directly related to his own favorite study, exclaimed, when recommended to read Milton’s ‘Paradise Lost,’ ‘What does it prove?’ Are the lofty emotions, the glorious imagery, the sublime speculations, the melodies that have charmed our ear, elevated our thoughts, improved our hearts, ennobled our nature, purified our manners, and thrown rays of sunshine over the dreary and thorny path of life, to be dismissed from our contemplation because they have no obvious and direct relationship to the practical business of life? Let us not encourage the vulgar prejudice against those exalted inquiries that have no apparent or intimate association with the science of medicine, which constitute the charm and poetry of life, and exercise a powerful influence upon the intellectual progress of nations, the civilization of the world, and the character, happiness, and destiny of man!

‘—— Desolator! who shall say
Of what thy rashness may have reft mankind?
Take the sweet poetry of life away,
And what remains behind?’”

Dr. Winslow dwells at length on the importance of a more general knowledge of the science of mind, and, after pointing out to the student the advantages that are likely to arise from the study of mental philosophy, he truly remarks—

“This science, apart altogether from its direct utility, has other great and obvious advantages, which, in the absence of more conclusive recommendations in its favour, ought to demonstrate to us the importance and value of a knowledge of our own mental constitution. The discipline—the training—the expansion—which the mind undergoes in the study of its own operations, are of themselves benefits not lightly to be appreciated. The cultivation of habits of accurate observation and reflection, of patient attention, of rigid induction, of logical ratiocination, qualifies the mind for the more ready pursuit of those branches of know-

ledge that are considered to be more closely connected with the practical and active business of life. The mental *gymnasium* to which I refer is admirably fitted for the development, regulation, and cultivation of those faculties of the mind upon the right exercise of which depends our intellectual advancement and happiness."

Dr. Winslow next proceeds to consider the physician as a logician. We have only room for one extract in reference to this topic :

" But, as medical philosophers, we must not be satisfied with this natural aptitude or intuitive perception of the principles of logic. The science of medicine is especially amenable to the rules of logical and inductive reasoning. Having to unravel the mysterious phenomena of life, the investigation and treatment of those deviations from its normal state, termed disease, peculiarly expose us to many sources of error and fallacy, unless we cautiously keep in view the great truths inculcated by the Baconian philosophy, and are guided by the unerring principles taught by its illustrious founder—

‘ The great deliverer, he who from the gloom
Of cloistered monks, and jargon-teaching schools,
Led forth the true philosophy.’

“ There are but few gifted men in our profession, or in any other walk of modern science, of whom we could, in justice, say that they were able to dispense with the patient study of facts, or with the recognised *formulae* of logical and inductive science. It was remarked of the immortal Newton, that he appeared to arrive *per saltum* at a knowledge of principles and conclusions that ordinary mathematicians only reached by a succession of steps, and after the result of much labour, long-continued and profound meditation. It is only by strictly applying the principles of the inductive process of reasoning—by which we conclude that what is true of certain individuals of a class, is true of the whole class; or that which is true at certain times, will be true under similar circumstances at all times—that medicine will take rank with the exact sciences, and its cultivators have a right to claim a foremost position among the distinguished philosophers of the day. In the study of medicine, perhaps more than in any other science, we are peculiarly exposed to the danger of adopting false facts, of being seduced by specious and hasty generalizations, and led into error by deducing general principles from the consideration of a few particulars—the bane of all right and sound reasoning—the foundation of all bad philosophy. It is on this account that logic should form a part of the curriculum of our medical schools.”

When referring to the importance of the physician engaged in the treatment of insanity having a knowledge of the constitution of the mind, Dr. Winslow justly observes—

“ ‘Great powers of reason are requisite,’ says Vogel, ‘to understand men destitute of reason.’ To treat the various phases of disordered mind with any hope of a successful issue, requires on the part of the psychological physician qualities of mind rarely seen in combination—tact, presence of mind, judgment, a ready appreciation of intricate morbid mental phenomena, a delicacy of taste, a high *morale*, a steadiness of purpose, elevation of character, great command of temper, and

volitional power and resolute determination not to allow any amount of provocation to interfere with that calmness and serenity so indispensably necessary on the part of those brought into immediate association with the insane. If the mind be the instrument on which we are to operate in carrying out any systematic plan of moral treatment—if it be the duty of the physician to perseveringly ‘combat with delusions and hallucinations, and to substitute for them correct and healthy impressions ; to strengthen these impressions by judicious and repeated repetitions ; remove perverted trains of reasoning—replace them by correct induction, and give them the power and influence of habit and frequent association :’ how, I ask, can he make any progress in this mode of treatment, so long as he is ignorant of the *material* with which he is to work—in fact, with the faculties of the human understanding ? If the man who has the advantage of an ordinary medical education is, on account of his ignorance of the philosophy of mind, obviously unfitted for the serious duties of treating its disorders scientifically and successfully, what language can convey our impression of the folly, the barbarity, and heartlessness of entrusting the management of the insane to those who are not members of the profession at all, and who have enjoyed no more psychological or general education than that derived from their having acted as attendants in asylums, or that which they have received at a village school ? Need we feel surprise at the little advancement made in the science of cerebral pathology, and the amount of public odium which has, alas ! for so many years attached to those specially engaged in this anxious and important branch of practice, when we consider into whose hands this class has unhappily fallen ? I trust, however, the day is not very remote when the psychological physician, engaged in the treatment of insanity, will take his proper and legitimate position in the ranks of honorable and scientific men ; and the opprobrious epithet with which the vulgar and illiterate assail him will be expunged from the vocabulary. When that epoch arrives, the public and the profession will esteem, respect, and venerate those who, at great and heroic personal sacrifices (often of health, life, and reason), devote their acquirements, energies, and talents, for the benefit of this section of the afflicted family of man. I am at length rewarded,’ says Müller,* ‘since, after twenty-six years’ intercourse with the insane, I have not become insane myself.’ In a letter to Pinel it is observed, ‘The labourer in lead-works is thankful if he escapes lameness, and the medical attendant of a mad-house if he does not there leave his reason. A more deliberate sacrifice to the mightiest good of mankind is not conceivable.’ †

The medico-theological duties of the physician are thus described :

“ It is occasionally our painful duty to sit by the couch of the dying, and to witness the last fatal conflict between mind and matter. It is on such occasions that we have, either in co-operation with the recognised minister, or in his temporary absence, an opportunity of whispering words of comfort and consolation to the wounded spirit, and of directing the attention of the patient, and those immediately about him, to the

* Physician to the Julius Hospital, Wurzburg.

† ‘Aspects of Medical Life,’ by Dr. Mackness.

only true and legitimate source of the Christian's hope. Let us not lightly esteem or neglect the solemn functions thus imposed upon us. It may be our privilege to co-operate with those whose sacred duty it is to inculcate the precepts of our holy religion, and to suggest, without subjecting ourselves to the imputation of officiousness, the *degree* and *kind* of conversation admissible under certain physical or mental states. A zealous but indiscreet clergyman may, by the character of his admonitions, fatally interfere with the successful progress of an acute case of disease, and inadvertently produce an amount of mental and physical depression, from which the patient may never rally. In the exercise of this serious, this important, and imperative duty, the object should be to soothe, not to distract, the mind; to elevate, not to depress, the emotions; to inspire a holy reverence and simple reliance upon that Divine Being who is the Fountain of all Justice and the Reservoir of all Mercy. Our Saviour should be represented, not as the God of terror, but as a God of love and mercy."

Again, at the bed of death, at the last painful struggle, the physician may fully demonstrate his power and great usefulness:

"It is often the painful duty of the physician to intimate to his patient that the last gleam of hope has faded from his mind, and that he must prepare for the painful change which awaits us all. I would impress upon your minds, recognising the powerful influence of depressing mental emotions upon the shattered physical condition, the great importance of not prematurely snatching from under the patient the only prop—frail and fragile as it may be—upon which his and our hopes of recovery rest. To inform a man that he must prepare for death; that his hours are numbered; to bring about his bed the wailing of deep distress, when reasonable expectations exist of his ultimate recovery, would, in certain temperaments, induce the prophetic result."

Dr. Winslow discusses many other points in connection with the psychological functions of the physician; but we have quoted sufficiently from this lecture to give our readers a notion of the author's views on this interesting branch of inquiry. We strongly recommend our readers to peruse this lecture. It occupies forty-five pages, and is replete with deeply important and suggestive matter.

The second lecture is on the "Medical Treatment of Insanity." Dr. Winslow maintains, in the introductory part of the lecture, that too little attention has been paid, in the present day, to the study of the science of therapeutics. He says, and we think with great truth,—

"Extraordinary talents, enlarged capacities, high attainments, profound knowledge, great power of continuous and laborious scientific investigation, indomitable and unflagging industry, united to habits of close and accurate reasoning, are devotedly and zealously engaged in the study of the different branches of our noble science. I ask, whether the great, the original, the truth-loving minds among us have investigated, in a manner proportionate to its vast importance, that section of our art which specially and exclusively relates to the *modus operandi* of medicines, and their therapeutic influence in the *actual cure of disease*? I feel reluctant to breathe a word, or to utter a syllable, which could in the slightest degree be supposed to convey the impression that I under-valued and under-estimated those essential and interesting departments

of the science of medicine, to the investigation of which so many highly gifted men are devoting their talents and knowledge. The microscope has done much to enlarge the boundaries of science; it is an invaluable instrument in the hands of the scientific, experienced, and cautious philosopher, and the insight which it has afforded, and the light which it has reflected upon the minute anatomy of tissue, and into the nature of organic and pathological products and elements, have undoubtedly advanced considerably the science which we cultivate. The results so obtained have led to, and will ultimately be productive of, most important practical advantages. I say so much in this stage of my inquiry, to guard myself against the imputation of thinking lightly of these minute inquiries into the intimate nature of organic structure. I would not say a word to discourage the commendable zeal, industry, and patience of the microscopist, who toils

‘ From night to morn, from morn to dewy eve,’

in investigating the phenomena of matter, and who applies well-ascertained data to assist him in the elucidation of that mysterious and subtle principle which gives motion, animation, and intelligence to the grosser particles of our material organization. Admitting the great utility of the microscope, I would, placing my interrogatory in a suggestive form, ask, whether we have not, in these profound, intellectual, and necessary investigations, occasionally overlooked the great and ostensible vocation of the physician? The erudite anatomist—the learned physiologist—the accurate stethoscopist—the profound analytical chemist—the zealous microscopist, capable of accurately delineating the minute anatomy of tissue, or the physical character, weight, and quality of each essential organic element constituting its structure—will not, without the patient study of the phenomena of disease, and careful investigation of the *modus operandi* of the agents of the *materia medica* in certain morbid conditions of the system, make either a good or a successful physician. Have we not neglected the science of therapeutics? Have we devoted a sufficient degree of attention to the study of the specific action of medicine, under given conditions of bodily disease? Have we endeavoured to discover the most speedy mode of arresting the disorganizing process, assuaging suffering, prolonging the duration of life, and averting death, by the persevering administration of *physical* curative agents?”

Dr. Winslow combats successfully with the *spiritual* theory of insanity, affirming that the mental disorder in any case is but the symptom of physical disturbance. He says—

“ Among the causes which have unfortunately given force and longevity to the idea that the administration of physical agents is of little or no avail in the treatment of the disorders of the mind, one holding the most prominent rank is the unphilosophical hypotheses which have been broached with the view of explaining the phenomena of insanity. To this source much of the fallacy, false induction, bad logic, and the neglect in reference to the use of remedial measures may be traced. Insanity has been considered to be a spiritual malady—a functional disease; to be an affection of the immaterial essence; to be a disorder of the soul, and not simply the result of a derangement of the material instrument of

mind interfering with the healthy action of its manifestations. The brain has been supposed to be intact; not a fibre disturbed, not a vesicle altered, not a vessel overloaded: the encephalon has been imagined, in the severest forms of disturbed mind, to exist in all its integrity, so ridiculously absurd, so wildly unphilosophical, have been the notions entertained in reference to the proximate cause of insanity. This spiritual doctrine has naturally led to the conclusion—false in theory and destructive in practice—that for the alleviation and cure of the spiritual malady, spiritual remedies were the most important and essential. The clergyman instead of the physician was therefore summoned to the bedside of the insane, and the bible and prayer-book displaced the physical remedies prescribed for the cure of the cerebral disorder."

Again he says—

"The common phrase, 'functional disease,' is but another designation for the spiritual hypothesis—it is but a phantom of the mind—a pathological enigma, having no actual existence apart from the active imagination which gave it birth. When we assert that the 'functional' or 'spiritual' theory will not bear the test of serious examination—that it is at variance with all *à priori* and *à posteriori* reasoning—that it stands in direct opposition to positive, well-recognised, undeniable data, we are met by the interrogatory, Can you demonstrate to us the specific character of the change induced in the nervous matter which it is alleged gives rise to mental derangement? and do not the scalpel and microscope of the morbid anatomist in vain endeavour to ascertain, in many cases of positive, violent, and unequivocal insanity, any appreciable structural lesion in the nervous matter, in its investing membranes, or organs in close association with the brain, sufficient to account satisfactorily for the morbid phenomena exhibited during life? One would really infer, from the reasoning and assertions of those who take these spiritual views, and who repudiate the idea of insanity ever being the result of a physical change in the condition of some portion of the brain or its appendages, that the encephalon has no specific functions allotted to it; that it is altogether a useless and supernumerary organ; that it was created for no wise purposes; and that, as far as the phenomena of mind were concerned, we could have done as well without as with the brain! If this organ be not the material instrument of mind—if it be not the media through which the spiritual portion of our nature manifests its powers—the centre of sensation—the source of volition—the seat of the passions—

'The dome of thought,—the palace of the soul'—

I ask, what *are* its functions, its specific uses and operations?—for what object was this most exquisitely organized and complicated structure formed?—why does it receive so large a proportion of the blood, and why is it so carefully protected from injury? These interrogatories naturally arise in the mind, when we hear so unphilosophical and so unphysiological a theory propounded with reference to the possibility of the mind being *subject to disease apart from all derangement of the material organs with which it is so closely and indissolubly associated*. Can we conceive a more preposterous notion than that sanctioned by high authority, and which inculcates that the spiritual principle admits of being dis-

torted, deluded, depressed, exaggerated, perverted, exalted, independently of any form of bodily disease, or modification of nervous matter?"

In discussing Dr. H. Munro's theory of insanity, Dr. Winslow observes—

"The most recent pathological doctrine propounded to explain the phenomena of insanity—I refer to the views of a recent writer*—that derangement of mind is the effect of 'loss of nervous tone,' and that this loss of nervous tone is 'caused by a premature and abnormal exhaustibility of the vital powers of the sensorium'—conveys to my mind, no clear, definite, or precise pathological idea. It is true that we often have, in these affections of the brain and disorders of the mind, 'loss of nervous tone,' and 'exhaustion of vital power'; but, to my conception, these are but the *effects of a prior morbid condition of the encephalon*, the *sequelæ of specific inflammation of the hemispherical ganglia*. To argue that insanity is invariably and exclusively the result of 'loss of nervous tone,' is to confound cause and effect, the *post hoc* with the *propter hoc*; and would, as regards therapeutical measures, act as an *ignis fatuus*, and allure us as pathologists from the right and legitimate path."

The subjoined observations on the classification of mental diseases cannot be too strongly impressed on the minds of those engaged in the study of this subject:

"The most simple classification of insanity, the one I think best adapted for useful and practical purposes, is its division into the *acute* and *chronic* forms; the insanity ushered in by *excitement* or by *depression*, into *mania* and *melancholia*—*amentia* and *dementia*. The minute divisions and subdivisions, the complicated and confused classification taught by lecturers and found detailed in books, may serve the ostentatious purpose of those desirous of making a pompous display of scholastic and scientific lore, but I think they have tended to bewilder and obscure the understanding, and lead the student in search of practical truth from the investigation of the *disease itself* to the study of its *symptoms*, and to the consideration of unessential points and shades of difference. Adhering to this division of the subject, each form should be viewed in relation to its *complications*, as well as to its *associated diseases*. Among the former are epilepsy, suicide, homicide, paraplegia, hemiplegia, and general paralysis. The associated diseases implicate the lungs, heart, liver, stomach, bowels, kidney, bladder, uterus, and skin."

On the subject of diagnosis, Dr. Winslow remarks—

"I would premise that those inexperienced in the investigation of this class of cases would often arrive at false and inaccurate conclusions, if they were not cognizant of the fact, that the insane often describe sensations which they have never in reality experienced, and call attention to important symptoms which have no existence except in their own morbid imaginations. A patient will assert that he has a racking headache, or great pain and tenderness in the epigastric region, both symptoms being the fanciful creations of his diseased mind. This is particularly the case in the hysterical forms of insanity, in which there always exists a disposition to pervert the truth, and exaggerate the symptoms. Again, serious bodily disease may be present, the patient not being sufficiently conscious to comprehend the nature of the questions

asked, or able to give intelligible replies to the anxious interrogatories of the physician. Insanity often masks, effectually obscures, other organic affections, the greater malady overpowering the lesser disease. When Lear, Kent, and the Fool, are standing alone upon the wild heath, exposed to the merciless pelting of the pitiless tempest, Kent feelingly implores the king to seek shelter from the 'tyranny of the open night,' in an adjoining hovel. It is then that Lear gives expression to the psychological truth just enunciated—

‘Thou think’st ’tis much, that this contentious storm
Invades us to the skin: so ’tis to thee;
But *where the greater malady is fixed,*
The lesser is scarce felt;
■ * ■ * ■ The tempest *in my mind*
Doth from my senses take *all feeling else*
Save what beats there.’

Disease of the brain may destroy all apparent consciousness of pain, and keep in abeyance the outward and appreciable manifestations of other important indications of organic mischief. Extensive disease of the stomach, lungs, kidneys, bowels, uterus, and heart, has been known, during an attack of insanity, to progress to a fearful extent, without any obvious or recognisable indication of its existence. Insanity appears also occasionally to modify the physiognomy and symptomatology of ordinary diseases, and to give them peculiar and special characteristic features.”

On the much-vexed question of depletion in the treatment of insanity, Dr. Winslow remarks—

“In regard to the treatment of acute mania, the important and much-litigated question among practitioners of all countries, is that relating to the propriety of depletion. Need I refer to the conflicting and contradictory opinions entertained by eminent writers on this important and much-vexed therapeutical point? Whilst some practitioners of great repute and enlarged experience fearlessly recommend copious general depletion for the treatment of insanity, and cite cases in which this practice has been attended with the happiest results, others, equally eminent, whose opinions are as much entitled to our respect, fearlessly denounce the lancet as a most fatally dangerous weapon, and shudder at the suggestion of abstracting, even locally, the smallest quantity of blood! In avoiding Scylla, we must be cautious of being impelled into Charybdis. The error consists in a vain effort to discover a *uniform mode of treatment, and attempting to propound some specific mode of procedure adapted to all cases.* He who maintains that bloodletting is never to be adopted in the treatment of mania, without reference to its character, its origin, the peculiar constitution of the patient, and the existence of local physical morbid conditions, which may be materially modifying the disease, and giving active development to morbid impressions, is not a safe practitioner. Neither would I confide in the judgment and practice of the physician who would, in every case of violent maniacal excitement, attempt to tranquillise the patient and subdue excitement by either general or local depletion.”

Dr. Winslow then proceeds to point out the kind of case in which the local abstraction of blood from the head is likely to be of service—

“In attacks of insanity, when the symptoms are acute, the patients young and plethoric, the habitual secretions suppressed, the head hot and painful, the eyes intolerant of light, the conjunctivæ injected, the pupils contracted, the pulse rapid and hard, and the paroxysm sudden in its development, *one* general bleeding will often arrest the progress of the cerebral mischief, greatly facilitate the operation of other remedies, and ultimately promote recovery. In proportion as the symptoms of ordinary insanity approach those of phrenitis, or meningitis, shall we be justified in the use of general depletion. Although it is only occasionally, in instances presenting peculiar characteristic features—cases occurring in the higher ranks of life, where the patient has been in the habit of living *above par*, and is of a sanguineous temperament—that we are justified in having recourse to the lancet, there is a large class of recent cases presenting themselves in the asylums for the insane, both public and private, in the treatment of which we should be guilty of culpable and cruel negligence, if we were to omit to relieve the cerebral symptoms by means of the *local* abstraction of blood. It is, alas! the fashion and caprice of the day to recklessly decry the application of cupping-glasses or of leeches in the treatment of insanity, in consequence, I think, of the slavish deference shown to the opinions of a few eminent French pathologists, who have, by their indiscriminate denunciation of *all depletion*, frightened us into submission, and compelled us to do violence to our own judgment. The local abstraction of blood is, in the hands of the discreet and judicious practitioner, *a powerful curative agent*; and yet it is the practice of some men, and men, too, of position, to discard altogether the remedy!”

The third lecture, on “Medico-Legal Evidence in Cases of Insanity,” is perhaps the most elaborate dissertation on this subject in the English language. Dr. Winslow has, for so many years, occupied so prominent a position as a medical jurist in cases of disputed insanity, criminal and civil, that all he says on this difficult but deeply interesting branch of philosophical investigation, is entitled to our profound respect and attention. Dr. Winslow does not speak as a mere theorist. Having been professionally engaged in our English courts of law for the last ten or fourteen years, in nearly all the great law cases involving the question of criminal responsibility and mental competency to bequeath property, Dr. Winslow is in a position to convey to the profession most useful and valuable instruction on these points. His lecture on the subject occupies nearly 100 pages of closely printed matter. It is a volume in itself, and deserves to be carefully studied by all who are likely to be called upon to give an opinion on questions of this nature. How graphically does Dr. Winslow sketch the position of the medical witness in cases of insanity:

“Occasionally we have to give testimony in relation to matters of *fact*; to describe *physical* states—phenomena cognizant to sense. For example: in cases of sudden death from supposed poisoning, the toxicologist has certain well-defined scientific data to guide him to a right conclusion; he is in possession of well-recognised tests, which bring him almost unerringly to a sound and safe deduction; his evidence has reference more to an *exact*, than to a speculative—to a certain, than an

uncertain science; his province (when in court) is simply to record the results at which, after careful investigation, he has arrived. The questions involved in the inquiry, whether death, under suspicious circumstances, was natural, self-inflicted, or the effect of extraneous violence, are not *necessarily* intricate, obscure, or difficult of satisfactory solution. How different, however, is the position of the witness, when his mind is brought to the consideration of questions connected with morbid mental phenomena? In these exalted inquiries he has no fixed or certain test—no infallible standard—no well defined rules—no principles of exact science, to aid him; no beacon to protect him from the rocks and quicksands which beset his course—no chart to refer to in times of difficulty—no compass to guide him in the hour of danger—no harbour of refuge into which he can run his fragile vessel when the tempest is howling and destruction impending. As medico-legal witnesses, the obstacles with which we have to contend are often of a grave and serious character. We have to deal with phenomena, of the essence or intimate nature of which we know absolutely—positively, nothing. It is our duty to elucidate principles of belief—to unravel motives of action—to explain erratic conduct the most anomalous and extraordinary; we have to trace the line which separates passion—the subtle and shifting transformations of wild, ungovernable, and impetuous passion—from the excitement of mania, and the morbid emotions incident to the minor forms of diseased mind: to sketch the varying frontier, the nice and shadowy distinctions, which separate lunacy from malignity—madness from brutality; to point out where folly merges into mental derangement—where *responsibility* terminates, and *irresponsibility* commences; to distinguish between *eccentricity* and *insanity*—*crime* and alienation of mind—*vice* and *mental derangement*—between the delusions of the lunatic and the false conclusions—the illogical deductions—the unphilosophical reasoning of men of sound intellect and of rational understanding,—to separate the normal rhapsodies of the healthy imagination, and the Arcadian illusions of the poet, from those *morbid* conceptions of the fancy—those

—‘Daggers of the mind—false creations
Proceeding from the heat-pressed brain.’

those ‘thick-coming fancies,’ the products—the well-recognised, indisputable symptoms of a mind thrown off its healthy balance by *actual cerebral disease*.

“There is no possibility of our placing the diseased mental elements submitted to our critical examination in a psychological crucible or test-tube; we cannot avail ourselves, in these delicate investigations, of the aid of the microscope; there is no mode by which we can penetrate behind the curtain, or tear aside the veil that divides the *material* from the *immaterial—mind from matter*; there is no possibility of our obtaining access to that mysterious chamber where the spiritual portion of our nature is elaborated; we have no gauge, no square rule, by which we can ascertain in all cases, with any approach to chemical or mathematical accuracy, an accurate idea of the actual condition of the mind, when apparently under a cloud. In the elucidation of these

points, we are in a great measure left to our unaided mental sense—to the uncertain guidance of our own deceptive experience, and alas! often, fallible judgment.

" We enter the witness-box, charged, under the solemn sanction of an oath, to decide the important questions as to the legal and moral responsibility of our fellow-men. In capital cases, we are called upon to declare whether the criminal was or was not insane when he committed the act; whether, by disordered mind, he was reduced to a state of legal irresponsibility. In other cases, equally important matters are submitted to our adjudication, involving points relative to the competency of persons to make testamentary dispositions of their property, or manage, during life, themselves and their affairs. In the former case, the life of a fellow-creature is made contingent upon the evidence of those deputed to examine him, and delegated with the responsibility of recording their medico-legal opinion as to his state of mind; in the latter instance, we are expected to depose to the competency of certain persons to exercise the otherwise inalienable privilege of disposing of property agreeably to their own notions of the law of inheritance and conceptions of what is just; and, in the third case, it is our province to decide, not upon the solemn question of life or death, but whether a fellow-citizen is in a condition of mind to justify the law in alienating from him his *civil rights*, depriving him of the control of his person and affairs, and destroying, by a legal declaration of lunacy, his free and independent agency. In the first case, it is our imperative duty to avert, if possible, *actual* death—a death of *moral* ignominy and of *physical* suffering; in the latter instance, it is left for us to pronounce whether legal dissolution is to be recorded against the party whose mind is the subject of medico-judicial inquiry. In the former case, it may, happily, be in our power to rescue a fellow-creature from the scaffold; and, in the latter instance, we may, by our evidence, have the not less pleasing gratification of shielding him from the expensive, but nevertheless, under proper circumstances, humane guardianship of the Court of Chancery."

Dr. Winslow then proceeds to discuss with great care and minuteness the following point :

" 1. Cases in which the plea of insanity is urged in extenuation of crime.

" 2. Cases where attempts are made to invalidate the legal operation of testamentary dispositions of property, on the ground of mental incompetency.

" 3. When legal proceedings are instituted to invalidate a marriage contract on the plea of insanity and imbecility.

" 4. In commissions 'de lunatico inquirendo,' issued by the Lord Chancellor, with the view of ascertaining the existence of unsoundness of mind, and competency of the party (the subject of investigation) to manage his person and property.

" 5. Cases in which medical men are called upon to certify to the existence of insanity, justifying an interference with the person of the lunatic, and depriving him of his free agency, either for the purpose of placing him under treatment, or protecting him from the commission of acts of violence to himself or others."

" 1. An absolute dispossession, by disease, of the free and natural agency of the mind; partial insanity being no excuse for crime.

“2. The existence of a delusion, the criminal act being the immediate and direct result of the morbid idea; the proof of the presence of a delusion having no positive and clear connexion with the alleged crime, not being legal insanity, and no evidence of the existence of irresponsibility.

“3. A consciousness of offending against the laws of God and man—in other words, a knowledge of good and evil.

“4. A knowledge of right and wrong—lawful or unlawful—the presence or absence of motive.”*

We cannot pretend in this brief analysis to lay before our readers even an outline of Dr. Winslow’s medico-legal views. He has opened a wide field of observation for the thinking reader: and, although we consider some of the points mooted by our author as still unsettled and open to discussion, we *sub judice* nevertheless fully agree with him in the great and leading principles which he has enunciated for the guidance of the medical jurist in cases of insanity. What can be better than the advice which Dr. Winslow gives as to the conduct of the medical witness? The following extract is too important to omit:

“The witness should carefully divest himself of all appearance of partisanship. A quiet, calm, respectful demeanour—and a cautious and modest expression of opinion, even in cases which admit of no doubt—always convey a favorable impression to the court, and give additional weight and influence to medico-legal evidence. He should remember that in all probability the course of examination is carefully prepared, it being the object of the advocate to obtain from him a reply to a *consecutive series of questions*, thus gradually unfolding and eliciting the truth. Should he, in his eagerness and anxiety to make a favorable impression upon the court, anticipate the interrogatories, he might seriously interfere with the conduct of the case, and injure the cause he is most anxious to uphold.

“It occasionally occurs that a medical witness may be fully competent to give sound and satisfactory evidence in relation to the presence of insanity, without having the power of clearly stating the grounds for his opinion. A medical gentleman, upon being asked whether he considered a certain person of unsound mind, replied that such was his belief. He was then requested to state his reasons. He said he had formed his conclusions from the ‘general manner’ and ‘deportment of

■ The judges will not permit the medical witness to infer the existence of insanity from the character of the *act itself*, apart from all other evidence of derangement of mind. In the case of Greensmith, tried for murder on the Midland Circuit in 1837, Mr. Justice Parke observed, in his charge:—“Nothing could be more contrary to the law than to infer insanity from the very malignity and atrocity of the crime. It was true, that such crimes could never be committed by men who were in the possession and control of a right reason, and a proper mind; but it was his duty to inform the jury that the complete possession of reason was not essential to constitute the legal, any more than the moral responsibility of man, it being necessary that the party should have sufficient knowledge and reason to discriminate between right and wrong.” This may be sound law, but it is not sound *psychology*. In many cases the “atrocity and malignity of the crime” afford to the practical physician invaluable evidence of the existence of insanity, the derangement manifesting itself in the character of the *act itself*. I willingly admit that we should cautiously act upon such evidence; but should we not be culpable if we were to set it altogether aside?

the patient.' The witness was then asked to describe the 'manner' and ' deportment' to which he referred. He replied that the patient was ' odd in his manner, and had an insane and peculiar appearance about his eye and countenance ; but, upon being closely pressed by counsel to describe these symptoms more minutely to the jury, the witness was at once nonplussed, became embarrassed, and broke down. He had a lucid and a *right* opinion of the *matter of fact*, but had no power of describing the symptoms from which he had formed his conclusions. Many men are fully able to give testimony as to *results*, but are totally incompetent to explain the process of reasoning, or succession of thought, by which they have been led to the deduction. A man of practical good sense, who, upon being appointed governor of a colony, had to preside in its court of justice without previous judicial practice or legal education, received the following advice from Lord Mansfield : ' Give your decisions boldly, for they will probably be right ; but never venture on assigning reasons, for they will almost invariably be wrong.' Lord Mansfield knew, says Mr. Mill, who relates the story, that if any reasons were assigned they would necessarily be an after-thought, the judge being *in fact* guided by impressions from past experience, without the circuitous process of framing general principles from them ; and that if he attempted to frame any such, he would assuredly fail.* It would not be difficult to account, psychologically, for a defect of this kind. Are we not daily in the habit of meeting men who have, in relation to matters of art, &c., an *intuitive* perception of the true and beautiful, but who have no power of describing or analysing their sensations and perceptions ?

"A favorite manœuvre of counsel, is to ingeniously construct a number of hypothetical cases, apparently illustrative of the point at issue, and to place them *seriatim* before the witness, with the view of obtaining his opinion of each individual symptom of the alleged mental condition. The replies to such interrogatories, if unguardedly expressed, are often subsequently referred to, for the purpose of damaging his evidence. We should protect ourselves from these legal onslaughts, by carefully considering, before we commit ourselves to an answer, the precise bearing of every interrogatory ; it must be rapidly viewed in all its relations, and if we are not thoroughly satisfied as to its character, it is our duty to request the counsel to repeat the question. If we do not clearly perceive its tendency we must protect ourselves, by carefully qualifying our answer. In a case where the validity of a will was contested, on the ground of the insanity of one of the subscribing witnesses, it appeared in evidence that he had at one time entertained some absurd delusions, and had attempted suicide ; but that for a few months prior to the execution of the will he had repudiated the delusions, quietly pursued his studies, had written a book, and in fact was apparently well, with the exception of his being unusually shy, with a desire for solitude. To one of the witnesses, who had spoken in favour of the sanity of the party, the following question was put :—' Supposing he had committed murder about the time he had witnessed the will, would you have considered him as morally responsible for the act ?' This question is said

* ' System of Logic,' by J. Stuart Mill, vol. i, p. 254.

to have been artfully founded upon the imputed disposition of the witness to admit too readily the plea of insanity in criminal cases. The court would not allow the question to be answered, but the reply would not have promoted the object of the counsel.”*

The distinction which Dr. Winslow draws between the mental incompetence resulting from advanced life and old age, and the mental unsoundness consequent upon, or the effect of insanity, or actual disorder of the mind, in a pathological point of view, is most important, and should never be lost sight of:

“ It is important that we should remember that in all contested cases of lunacy, relating to the administration of property, it is a matter of moment for counsel, supporting the commission, if he cannot exact an admission of insanity, to induce the witness to acknowledge the existence of an incapacity (apart from the presence of actual lunacy) to manage both the person and property. If the question is, ‘ Do you consider the party of unsound mind?’ and the answer should be either negatively, affirmatively, or of a doubtful character, the witness, in all probability, will be immediately asked, ‘ Do you consider the party capable of taking care of himself, and of managing his property?’ Upon one occasion a question of this character was put to myself. ‘ Yes, *legally* competent.’ ‘ Legally competent?’ echoed Sir F. Thesiger, ‘ pray, sir, leave *us* (the lawyers, of course) to decide that point.’ He was most anxious to force from me an admission that, in the ordinary acceptation of the term, the party was not in a condition to take care of herself, or to manage her property; but drawing what I conceived to be a psychological distinction between *natural* and *healthy incapacity*, and *the incapacity the effect of insanity*, I refused to make the admission he was anxious to obtain, and which, if procured, would, I have no doubt, have been turned adroitly against me. It was upon the same occasion, and during the same inquiry, that I was asked whether, if I thought the party were competent to manage herself and her affairs, the *world* would be of the same opinion? I replied ‘ that, upon intricate and disputed questions of science, I did not think the opinion of ‘ the world’ a safe guide.’ Upon which Sir F. Thesiger rejoined, ‘ Then, I presume, you *look down upon the opinions of the world?*† If I had been permitted, I might have quoted, in justification of my remark, the sentiments of a modern philosopher of no mean repute: ‘ The general voice of mankind, which may often serve as a guide, because it rarely errs widely or permanently in its estimate of those who are prominent in public life, is of little value when it speaks of things belonging to the region of exact science.’‡ The opinion of the majority upon questions within the comprehension and grasp of men of ordinary intelligence and natural sagacity, is entitled to our profound respect. It may be, and often is, right. But does not history satisfactorily establish that what in common

* ‘ American Journal of Insanity.’

† I should regret if any of my readers for one moment imagined that I in the slightest degree complain of the course of examination pursued by this able, honorable, and justly distinguished advocate. The conduct of Sir F. Thesiger during the painful and protracted inquiry into the sanity of Mrs. Cumming, is beyond all praise. In his zeal for the interests of his client, he never deviated from the deportment of the gentleman.

‡ ‘ History of the Inductive Sciences,’ by Dr. Whewell.

parlance is designated as the 'generally-received opinion' is occasionally very remote from the truth?

• *Interdum vulgus rectum videt, est ubi peccat.*—HOR.

"There is a *legal* incapacity, and, according to law, it is the consequence of diseased or unsound mind. There is also ordinary and natural incapacity, which may co-exist with a healthy and a sound understanding. This important and essential distinction the medical witness should never overlook when giving his evidence."

The few extracts we have given from Dr. Winslow's lectures will, we hope, induce our readers to procure the volume, and master its contents. It will well repay perusal. It is replete with important facts and principles, and should find its way into the library of every member of the profession.

A clinical investigation into the diagnostic value of the Cracked Pot Sound (Bruit de Pot Féié de Laennec). By T. HUGHES BENNETT, M.D., Professor of the Institutes of Medicine and of Clinical Medicine in the University of Edinburgh. ('Edinburgh Medical Journal,' March, 1856.)

One hundred patients in the clinical wards of the Royal Infirmary at Edinburgh were examined in this investigation, and the results of the examination, as to age, disease, and the presence or absence of the cracked pot sound, are carefully tabulated. These patients were taken indiscriminately as they presented themselves, the choice being in no way governed by a desire to obtain a preponderance of chest diseases. The chests of these patients were percussed with the hammer and pleximeter, the mouth being open, and the result was that the cracked pot sound was distinctly produced in twenty-nine out of the hundred. The general results were:

1. That the cracked pot sound was frequently absent in cases where our preconceived notions would have induced us to look for it. This was very observable in five cases of phthisis with all the signs of a cavity, in two of which, cavities, although of comparatively small extent, were found after death.
2. That the cracked pot sound was frequently present in pulmonary disease where there was no cavity, as in four cases of pleurisy, and in several cases of pneumonia.
3. That it was present in several cases where neither symptoms or signs gave any evidence of disease of the lungs.
4. That it was frequently observed to come and go in the same individual, evidently in consequence of changed physical condition in the lungs during the progress of the case.

With regard to the 29 cases in which the cracked pot sound was present, the particulars are: pleurisy, 4; pneumonia, 5; pleuro-pneumonia, 1; phthisis, 6; other diseases with pulmonary complications, 5; the pulmonary organs healthy, 8.

Pleurisy.—Of the 4 cases of pleurisy, 3 were acute, affecting only one side, and 1 chronic, affecting both sides. In all the three acute cases the sound was limited to a space immediately under the clavicle

of the affected side, where it was unusually resonant on percussion. In the case of chronic pleurisy affecting both sides, there was resonance under both clavicles, and the sound was elicited on both sides. In another case of pleurisy, without resonance, there was no cracked pot sound.

It would seem, therefore, that a portion of spongy lung is necessary to the production of this peculiar sound. That this, however, is not the only condition, Dr. Bennett shows by a sixth case of pleurisy, (No. 47 in the list), in which there was dulness over every part of the affected side, except in the space above the second rib. There the percussion was normal, and the cracked pot sound was absent. In a word, the sound was only produced where the percussion sound was unusually clear and tympanitic.

Pneumonia.—Of the 5 cases in which the sound was elicited, 2 were acute, and 3 already chronic. It was elicited sometimes when dulness on percussion was present, and sometimes when clearness was present. In 2 cases it was heard under both clavicles, although the disease was confined to a single lung. It was heard in every case of pneumonia.

Pleuro-pneumonia.—In the single case of this disease the cracked pot sound was present under both clavicles, although dulness on percussion was only present at the base of the right lung. The apex of the right lung was resonant.

Phthisis pulmonalis.—Out of 14 cases of phthisis the cracked pot sound could only be produced in 6. In these 6 cases there was dulness on percussion, with more or less moist râle, or hoarse inspiration with increased vocal resonance, where the sound was present. In 4 of these 6 the body was examined after death, and in 3 out of these 4 Dr. Bennett succeeded in producing the sound in question by percussing the dead chest, after making an opening in the trachea and keeping the edges of the incision apart with a pair of forceps. He did not always succeed on both sides, however, even though it had been heard on both sides during life. Where a cracked pot sound was producible a cavity was found; but in 1 case there was a large cavity and yet the sound was absent. Of the 8 cases of phthisis in which the sound could not be produced, there were 3 which presented signs of softening at the apex. In 2 of these, cavities were found after death. Dr. Bennett endeavours to explain the absence of the cracked pot sound in cases where this cracked pot sound is present by a possible diminution of elasticity in the chest, or by a temporary cutting off of the direct communication between the cavity and the bronchial tubes. In conjunction with other signs and symptoms, however, the cracked pot sound must be considered as highly diagnostic of a cavity.

Diseases with congestion, collapse, or emphysema of the lungs.—These were 5 in number; 3 of heart-disease, 1 of "chronic vomiting," and 1 of Bright's disease. In the 3 cases of heart-disease there was either dulness posteriorly and inferiorly, with resonance superiorly, or there were evidences of chronic bronchitis and emphysema. In the case of chronic vomiting there was dulness under the right clavicle, where the cracked pot sound was elicited; and, in the case of

Bright's disease, percussion under both clavicles, was unusually clear, and the sound was heard on both sides.

Diseases without pulmonary complication.—In the 8 cases belonging to this class, 7 were below 21 years of age, and 4 of these below 15. In one man, however, nearly 60, with a perfectly well-formed chest, the sound could be produced.

Such, then, being the apparently opposing and puzzling facts to which Dr. Bennett is led by a careful analysis of these 100 cases, it now remains for us to inquire into the author's views respecting the theory and diagnostic value of the sound. And first with respect to the theory of the sound.

"Any true theory of the production of the cracked pot sound," says Dr. Bennett, "must embrace all the known facts. It follows that, inasmuch as it may be produced in cases of pleurisy, pneumonia, and even in the healthy chest, the existence of a cavity, as supposed by Laennec, or of a mixture of air and fluid, as stated by Piorry, is not essential. According to Skoda, when percussion is made over a cavity, it is compressed at each stroke, and a portion of air suddenly driven out of it into the bronchial tubes; the hissing murmur, caused by the escaping air, is mixed up with the ordinary percussion-sound of cavities, and this compound noise represents the cracked pot sound. That part of the theory, however, which considers a cavity necessary, is shown by the preceding facts to be incorrect.

"It has been noticed by various observers, especially by Graves, Stokes, Williams, Hudson, Walshe, and Markham in this country, and by Martinet, Andral, Piorry, Roger, Skoda, Winterich and others abroad, that a peculiar tympanitic tone, on percussion, is frequently produced in cases of pleurisy and pneumonia. An inquiry into the causes of these tympanitic and non-tympanitic sounds, or a review of the theories of Graves, Skoda, and others, is not my present object, and would lead me too far from the immediate subject of this investigation. Two excellent papers have recently been published regarding them by Markham* and Winterich.† The preceding facts, however, will show that the cracked pot sound is producible sometimes with the tympanitic and sometimes with the non-tympanitic percussion note, and it appears to me that, had attention been more carefully directed to the first sound instead of so exclusively to the latter phenomena, it would have probably been ascertained long since to have been as distinct and frequent as I have demonstrated it to be. Dr. Markham observes of a case, in which there was an amphoric percussion sound, that on one occasion both he and Dr. Sibson noticed distinctly the cracked pot sound, near the same spot. The post-mortem examination showed that the right lung was gorged with blood and serum, but everywhere still retaining some portion of air.

"On carefully considering what are the necessary conditions for the production of this peculiar sound, comparing these with the facts detailed, and referring to the well-known modes of producing the sound artificially, 1st, with the two hands crossed, and, 2d, by percussing with the pleximeter on a bladder containing a small quantity of air, it appears to me they are, 1st, A certain amount of confined or tense air in the tissue of

* 'Monthly Journal,' June, 1853.

† 'Medizinischen Neuigkeiten,' 5 Jahrgang.

the lung ; 2d, The sudden compression of this air by a solid body in its neighbourhood ; 3d, Communication of this air with the external atmosphere.

" 1st. That a certain amount of air must be present is proved by its existence in all the twenty-nine instances in which the sound could be elicited. Thus in pleurisy encroaching on the lung from below upwards, percussion is clear under the clavicles. Where the entire thorax was dull, there was no cracked pot sound (No. 1). We have also previously alluded to the fact, that in one case (No. 21), as soon as the clearness of tone under the clavicle had disappeared, and, in another (No. 23), as soon as dulness invaded the apex of the affected side, the cracked pot sound could no longer be produced. The same observation applies to the cases of pneumonia, pleuro-pneumonia, congestion or collapse, proceeding from below upwards. On the other hand, where percussion is dull, as in pneumonia affecting the upper third of the lung, the confined air must exist below the diseased part, and be affected by the blow on percussion. In phthisis, with cavities, isolated or anfractuous, this condition is easily found. In healthy chests, especially in children, it may be easily demonstrated to occur, just when the chest is distended with air, as at the end of inspiration, thus affording the first essential condition.

" 2d. The sudden compression of the confined or tense air seems also to be a necessary condition in the production of the sound. This, however, may be effected in various ways. The blow of the hammer was in all the twenty-nine cases the immediate cause, but this could not operate in compressing the air unless the walls of the thorax were elastic, as we have shown it to be in most of those in whom the chest was healthy ; or, unless in cases of diseased chest, the blow communicated vibrations to indurations over the lung, which thereby compressed the air. In the former case the blow would act directly, in the latter, indirectly. Hence why in some lungs with elastic thoracic walls, during inspiration, it may be produced without disease, and why when elastic indurations occur, as in pleurisy, pneumonia, or phthisis, it may be elicited in disease. I have frequently observed, when percussing diseased chests, that the cracked pot sound diminishes in intensity after repeated percussions, I presume from the tensity of the air being diminished, by portions of it which have in this way been squeezed out of the space percussed.

" 3d. That there should be a communication between the air in the chest, and the external atmosphere, is proved by the invariable necessity of having the mouth and nostrils open before the cracked pot sound can be produced, and its immediate disappearance on shutting the mouth. After death, also, it can never be produced without previously making an opening in the trachea, or securing patency of the larynx. The necessity of this condition indeed serves, in my opinion, to explain how it happens that in several cases where cavities exist in the lung—that is to say, where confiued portions of air are present, with elastic chests or indurated surrounding tissue—still the sound is not elicited. For it is easy to conceive that in such cases, the bronchi leading to the external atmosphere, or the cavities themselves, may at various times be filled with purulent secretion, mucus, blood, or other fluid, and that swelling of the bronchial lining membrane, or compression of the tube, may cut off the commun-

cation so necessary for the production of a peculiar note on percussion. Hence it appears to me why in phthisical cavities the sound comes and goes—why it may be present or absent before death—but above all why this is no more an invariable sign of a morbid state than any other with which we are acquainted.

“Although these appear to me to be the conditions necessary for generating the sound, it is very difficult to determine the exact physical state at any one time necessary for its production. I believe, however, it will be found to reside in a mixture of solid and aeriform parts, the latter of which are capable of being compressed by the blow of percussion. Sometimes the former surround the latter, as in the case of a cavity. At others, the latter lie over, or upon the former, as in cases of pleurisy and dulness at the base; and occasionally the former lie upon or over the latter, as in pneumonia or infiltrated tubercle at the apex. In healthy chests a similar condition is produced by a full inspiration with elastic thoracic walls—as it is in a dead stomach rendered somewhat tense by air—in which last case, by percussing with a pleximeter, and bringing the two walls of the organ near each other, the cracked pot sound may be produced—a statement originally made by Skoda, and the correctness of which has frequently been confirmed by myself.”

As to the diagnostic value of the cracked pot sound, Dr. Bennett writes:

“A phenomenon which occurs in the general run of hospital cases, so frequently as twenty-nine in a hundred, and which was audible in twenty-one out of thirty-six pulmonary diseases in that hundred, must probably be considered a more common sign than any other with which we are acquainted. The character of the sound, also, is so peculiar and distinctive, is so easily produced when percussion is properly performed, and so little likely to be confounded with anything else, as to demand our careful attention. Yet it must be clear that it is in no degree pathognomonic, as it may be present in a variety of morbid states, and exists far more commonly in health, as we have shown, than is generally supposed. All these circumstances, however, are by no means opposed to its value in a diagnostic point of view. Indeed nothing, perhaps, has so much tended to throw discredit on the physical diagnosis of diseases of the chest, or been more mischievous in practice, than the attempts to connect particular diseases with particular signs, of which the notion that crepitation is diagnostic of pneumonia, and that dulness on percussion under the clavicle is diagnostic of phthisis, are striking examples. Hence, although, *per se*, the cracked pot sound is of little value—of no more, indeed, than any other individual sign; it is, when conjoined with other signs and symptoms, capable, in no small degree, of assisting the physician in his diagnosis of thoracic diseases.

“Dr. Stokes noticed the existence of this sound in some cases of bronchitis in children, Dr. Walshe has repeatedly observed it in infancy, and Dr. Markham has observed it in the case of an engorged lung, containing a certain amount of air, but without a cavity. But we are not aware that any attempt has yet been made to indicate, from the results of careful inquiry, the probable uses of this sign in practical medicine. It is very probable that it may subsequently be discovered in diseased conditions not yet observed by myself or others; but, among several which

occur to me as very probable ones unnoticed for the present, I venture to give the following, as the results to which the present inquiry had led me, viz. :

“1st. That the cracked pot sound is far more frequent than is generally believed.

“2d. That for its production, careful percussion, with the mouth open, should be practised with the hammer and pleximeter.

“3d. That it is not necessarily indicative of a cavity in the lungs, but may be present in various diseases of the chest, and even when the chest is perfectly sound.

“4th. That, notwithstanding, in percussing the chest, we should never omit to do so when the mouth of the patient is open, as well as shut, with a view of determining whether the cracked pot sound exists or not.

“5th. If present, it indicates either healthy lungs, with very elastic thoracic walls, or else increased density mingled with confined or compressed air in the thorax.

“6th. The youth of the patient, resonance on percussion, puerile or healthy respiration, and the absence of pulmonary symptoms, will serve to diagnose the healthy character of the lungs.

“7th. If the usual signs and symptoms of pleurisy, with dulness, be present with the cracked pot sound, it indicates that a portion of spongy lung is still performing its functions, and is not far from the thoracic walls.

“8th. If there be dulness under the clavicle with the mouth shut, and cracked pot sound when the mouth is open, it indicates a mixture of indurated tissue, and of air—a circumstance which may occur in partial pneumonia, or in phthisis pulmonalis—probably under other circumstances, such as aneurismal, or other tumours, compressing the lung.

“9th. Partial pneumonia can only be distinguished from limited tubercular deposition under such circumstances, by the general symptoms on the one hand, and by the absence of signs of a cavity on the other. If these fail, the diagnosis is most difficult.

“10th. But if there be symptoms and signs of a tubercular cavity, then the cracked pot sound indicates that such cavity has a direct communication with the larger bronchi, and through it with the external atmosphere.

“11th. As this is the most common condition of tubercular cavities, the occurrence of the sound in such cases, though far from infallible, is still highly diagnostic.

“The practical value of these conclusions, and the modifications in and extension of them, which may result from further clinical investigation, I shall not now dwell upon. It may be well to observe, however, that I have recently had a case in the clinical wards of the Royal Infirmary, where, with all the symptoms and signs of advanced phthisis indicating small cavities at both apices, there was a remarkably loud percussion note over the left mammary region, with distinct metallic tinkling immediately under the nipple, at the close both of inspiration and expiration. The sound resembled a double *tink, tink*. It was supposed that pneumothorax existed, yet a careful post-mortem examination showed no formation of air, as supposed by Graves, no lesion of the pleura whatever, and no cavity where the noise was audible, but small nodules of tubercles

scattered through emphysematous pulmonary tissue, with a small cavity at each apex. Was the metallic tinkling propagated downwards from the cavity at the apex? This interesting question must for the present remain unanswered.

"I have only, in conclusion, to express my conviction, that the remarkably characteristic cracked pot sound must be of greater importance than it has hitherto been considered, and that, if rightly interpreted, it is calculated to assist us, in an eminent degree, in rendering our diagnosis more complete and exact."

On the organic and functional Disorders of the Stomach. By GEORGE BUDD, M.D., F.R.S., Professor of Medicine in King's College, London, &c. (8vo, Churchill, 1855, pp. 357.)

This work consists of fourteen lectures, of which the majority have already appeared from time to time in one of the weekly medical periodicals. They are not simply reprints, however, but they are republished with such additions and corrections as the author's subsequent experience has suggested.

It is not necessary to enter upon an analysis of the whole work, and it must suffice to say that the ordinary topics of stomach disorder are carefully considered, and that the whole has a decidedly practical bearing. Already, indeed, we have noticed several of the author's opinions as the lectures first made their appearance; and all that remains for us to do at present is, to cite a few passages in illustration of the contents of the work before us. Let us take, then, the remarks upon perforating ulcer of the stomach as such a sample.

"From the account I have given of the symptoms and effects of the perforating ulcer of the stomach, it will be seen," says Dr. Budd, "that the disease becomes more easy of detection the longer it has lasted.

"Early in the disease the symptoms are few and equivocal. Pain and soreness at the epigastrium felt after meals, occasional sour eructations, and occasional vomiting—which are often the only symptoms then present—may result from various other causes, and even from mere functional disorder.

"After these symptoms have lasted some weeks or months, their very continuance becomes significant—it renders it highly probable that they depend on organic disease: while the seat of the pain, and the circumstance that it is always increased by eating and usually abates as the stomach gets empty, lead to the inference that this organic disease is in the stomach.

"After a time the symptoms I have mentioned are often succeeded by the sudden occurrence of profuse vomiting of blood. When this has happened, the detection of the disease becomes much easier.

"Vomiting of blood may, indeed, result from various other conditions; but these may generally be distinguished from ulcer by the nature of the illness and by the circumstances under which it occurs.

"1st. Vomiting of blood may result from a general tendency to hemorrhage, in consequence of a general fault of nutrition or a faulty condition of the blood, as in scurvy or purpura; but in such cases the

hemorrhage is not confined to the stomach—blood issues from other mucous surfaces, and purpuric spots appear on the skin.

“2d. Again, vomiting of blood may result, as we have seen, from mechanical congestion of the stomach, in consequence of some impediment to the free passage of the blood through the liver or the chest. In such cases, the quantity of blood lost is usually small, and the cause of the hemorrhage is generally obvious enough from the co-existence of other symptoms, which reveal the primary disease and which show that the passage of the blood through the liver or the chest is greatly impeded.

“3d. Vomiting of blood sometimes occurs, without any organic disease of the stomach itself, in persons who, in consequence of repeated attacks of ague, or other causes, have great enlargement of the spleen. Here, also, the previous history of the patient, his cachectic condition, and the palpable enlargement of the spleen, readily lead us to the original cause of the hemorrhage.

“4th. Lastly, the hemorrhage may be vicarious of the catamenia; and this is especially liable to happen in young unmarried women,—the class of persons supposed to be most subject to ulcer of the stomach. But, in such cases, the hemorrhage usually occurs at the monthly period, and the natural discharge is suppressed or has previously been irregular; and, if no ulcer of the stomach exist, the vomiting of blood, although it may be attended with severe pain at the time, has not been preceded, and is not followed, by the long-continued pain and soreness produced by ulcer.

“In a large proportion, however, of cases even of this periodical vomiting of blood, an ulcer of the stomach does exist, and is the chief, if not the sole, source of the hemorrhage; but the blood, instead of issuing from a vessel of considerable size laid open by the process of ulceration, as in ordinary cases of simple ulcer, oozes from the minute vessels of the raw surface, in consequence of a congestion of the stomach, which takes the place of the appointed monthly congestion of the uterus. Symptoms of ulcer of the stomach are then present in the intervals of the vomiting of blood; and the hemorrhage is traced to a periodical congestion of the stomach only from its occurring at the appointed time, and from its taking the place of the natural monthly courses.

“5th. The vomiting of blood from the simple ulcer of the stomach may also be distinguished from that arising from other conditions by the characters of the blood vomited.

“When the hemorrhage consists in a mere oozing of blood, as it does in congestion of the stomach, and sometimes in cancer, the blood is coagulated as it escapes, and is vomited in minute clots or shreds. In simple ulcer of the stomach the blood usually issues from a vessel of considerable size laid open by the ulcer; it is poured out rapidly and abundantly, coagulates in a mass, and large clots are often thrown up.

“When vomiting of blood does not depend on any of the conditions which I have just mentioned, it results almost invariably (except in the case of malignant fevers) from organic disease of the stomach itself.

“When, therefore, profuse vomiting of blood occurs in a person who exhibits no general tendency to hemorrhage; who has no disease of the

liver, or in the chest, which greatly impedes the passage of the blood; who has no great enlargement of the spleen; and in whom the hemorrhage cannot, from the time of its occurrence and other circumstances, be referred to disorder of the menstrual function;—we are driven, in reasoning by the method of exclusion, to ascribe it to disease of the stomach itself. When such is the case, and when, moreover, the vomiting of blood has been preceeded for some weeks or months by pain and soreness at the stomach, always brought on or increased by meals, hardly a doubt can remain that it actually depends on organic disease of this organ. But, in persons under the age of thirty, the only organic disease of the stomach that gives rise to profuse hemorrhage, with very few exceptions, is ulcer.

“It follows, therefore, that, from the peculiar train of symptoms which I have mentioned,—namely, pain and soreness of the stomach, always brought on or increased by meals, continuing for many weeks or months, with occasional sour eructations and occasional vomiting, but without much fever or constitutional disturbance, and succeeded, at the end of that time, by profuse vomiting of blood,—it follows that, from this peculiar train of symptoms, we may occasionally, in persons between eighteen and thirty, infer the existence of ulcer of the stomach with almost as much certainty as that of any inward disease.

“In persons above the age of thirty, vomiting of blood, preceded by disordered and painful digestion, may likewise occur from cancer of the stomach. For persons, therefore, who have reached this age, the question will arise,—Is the organic disease of the stomach, which we have inferred to exist, simple ulcer, or is it cancer? When the disease has lasted some months, it is usually not difficult to answer this question.

“Cancer of the stomach, in most cases, originates at the pyloric or the cardiac orifice, and in some degree narrows or obstructs it. It also gives rise to a tumour, which, at the end of some months, is generally palpable enough; and it *always* interferes greatly with nutrition, causing progressive, and, after a time, extreme wasting.

“Simple ulcer seldom produces any of these effects. When, therefore, from the train of symptoms I have mentioned, we have inferred that organic disease of the stomach exists, we may often proceed a step further, and conclude that this disease does not obstruct either the cardiac or the pyloric orifice; and from the circumstance that the power of digestion remains, and that there is no great wasting, we may conclude, also, that the disease involves only a small portion of the stomach.

“We are thus led to the conclusion that there is organic disease of the stomach of such kind as to cause hemorrhage,—that this disease involves only a small portion of the stomach,—that it does not obstruct the orifices,—and that it does not form a tumour large enough to be felt. The probability, in such a case, will be very great, that the disease is simple ulcer, and not cancer. The probability is the greater, the longer the previous duration of the disease. A simple ulcer may continue almost stationary—at any rate with little change in the symptoms—for twenty years. Cancerous disease, on the contrary, constantly and steadily progresses; the symptoms become, week after week, more

marked ; and, although life may be protracted, especially in colloid cancer, for four or five years, the patient generally dies, much emaciated, within twelve months.

If, then, the disease has lasted this time, presenting the peculiar train of symptoms I have mentioned, and there is still no great wasting, and no evidence that the orifices of the stomach are obstructed, and no tumour to be felt, hardly a doubt can remain that the disease is simple ulcer of the stomach. The evidence is as complete and decisive as we can well have for any inward disease. Although, then, it may be difficult, or even impossible, soon after an ulcer of the stomach has formed, to distinguish it from some other diseases, the distinction may generally be made surely enough when the ulcer has existed many months.

“ It is often possible to go a step further than this, and to form some opinion respecting the *size* and the *site* of the ulcer.

“ The size of the ulcer may be judged of by the constancy of the pain and the severity of the other symptoms. If the pain be slight and of short duration, and the appetite be good, and vomiting occur seldom, and there be no wasting—the ulcer is small.

“ The site of the ulcer is determined by the spot in which the pain is felt. If there be much *tenderness* at the epigastrium, *and no pain in the back*—the ulcer is most probably on the anterior face of the stomach.”

On the relation between Abscess of the Liver and Dysentery. By E. W. EYRE, Esq., Garrison-Surgeon, Bellary. (“ Indian Annals,” Oct. 1855.)

The following remarks upon the relation between abscess of the liver and dysentery are taken from a paper entitled ‘ Medical Notes on Dysentery.’ They seem to be of considerable importance, and certainly they are deserving of careful attention, for they are written by a gentleman who (as our former pages will testify) has well vindicated his claim to being considered as an able and independent observer.

“ ‘ The connection between abscess of the liver and dysentery, as a clinical fact, is indisputable.’ Thus dogmatically does a writer in the ‘ British and Foreign Medical Review’* express himself. I believe there are few, if any, practitioners in India will agree with him. In the annual report on the 1st Madras Fusiliers for 1850-51, the subject of the connection between the two diseases was taken up ; the following is an extract—‘ To ascertain the connection between hepatic disease and dysentery, the following table has been drawn up from the post-mortem reports (of the Regiment) for the last sixteen years, and points out the stations where the cases occurred.’

“ To this table I have now added other cases that have since come under my notice ; or, that have been obtained from reliable sources.†

* No. xxvii, July, 1854.

† Other than those Mr. Waring has drawn from.

TABLE.

Stations.	No. of cases of fatal Dysentery.	Abscess of the Liver.		Various abnormal conditions of this viscus, induration, degeneration, &c.		Liver healthy.	
		No.	Per cent.	No.	Per cent.	No.	Per cent.
Kamptee . .	24	11	45.8	9	37.5	4	16.6
Secundrabad . .	53	9	16.9	9	16.9	35	66.
Arnee . .	6	1	16.6	0	0	5	83.3
Arcott . .	6	0	0	3	50.	3	50.
Bangalore . .	10	1	10.	1	10.	8	80.
Bellary . .	6	2	33.3	0	0	4	66.6
Total . .	105	24	22.8	22	20.9	59	55.2
Additional Table . .	13	3	23.	0	0	10	76.9
General Total . .	118	27	22.	22	0	69	58.47

"The first table has a column for other altered states of the liver besides suppuration. Whether they should all be regarded as disease I think questionable. In the post-mortems, the conditions of the organ is vaguely expressed by 'liver enlarged,' but enlargement, hypertrophy alone, is not always disease; besides if not weighed, the sight may deceive. The diseased states of the liver, apart from suppuration, that my opportunities have brought before me, have been cirrhosis in its different stages and appearances, not infrequent, and fatty degeneration, of which, however, I have seen but two well-marked instances. No one would connect these pathologically with dysentery, therefore they may fairly be excluded from a comparative table of inflammation and suppuration of the liver and dysentery, and if this be done, it will be found that of 118 cases of fatal dysentery, only 27 were complicated with hepatic abscess; or, 22.88 per cent. Mr. Waring's table, page 120, gives 149 out of 633 cases of primary dysentery, 23.54 per cent., a striking similarity. Do these results at all bear out the ingenious theory, first, I believe, proposed by Dr. Copland, in the following words:—'In dysentery, therefore, it may be inferred, that, in the progress of ulceration, phlebitis of the capillary veins of the bowels sometimes occurs; and that the matter or pus thus formed, in these veins, passes with the blood into the portal circulation, where it irritates or inflames the minute ramifications of the portal vessels, and the structure of the liver, giving rise to purulent infiltrations and collections in the organ, similar to those consequent upon phlebitis in other parts, but always occurring in the liver, and there only, because the morbid matter passes directly from the bowels into the portal circulation.' This theory has found an advocate in Dr. Budd. 'The consideration of these cases' (cases of *deposit* of pus in the lungs and liver) 'leads us naturally to a third cause—I believe by far the most frequent cause—of abscess of the liver: namely, ulceration of the large intestines * * * *. A connection between abscess of the liver and dysentery has long been noticed, but the two diseases are asso-

ciated far more frequently than has been generally imagined.' Dr. Budd's conclusions were founded on 62 cases only; in nearly all, the abscesses in the liver are ascribed to deposit of pus due to injuries, operations on the rectum, and in 31 to ulceration of the intestines or stomach. There is not an exact parallel between these and Dr. Waring's cases, or those in the accompanying table, for in the former the hepatic disease is the paramount one, in the latter, dysentery. The number of cases is large, being a total of 751. If the theory of the formation of hepatic abscess be sound, how is it that 76.50 per cent. of dysentery had no hepatic disease? If so intimate a connection between the two exists, the absence of abscess in the liver would be the exception, but it is found that its presence may rather be regarded as the exception.

"It was remarked in the report, 'It is probable that the two diseases are more associated in some stations than in others; in H. M.'s 64th Regiment, while at Masulipatam, in 1833, it was found that the biliary functions were but little implicated, while in the same Regiment, at Bangalore, hepatic derangement was so blended with dysentery, that it was difficult to state which organ was the originator of the disease.'*

"On reading the remark at the head of this article, I thought that a collection of as many cases as were procurable, of primary dysentery with hepatic abscess supervening, might not be without its use, and had entered upon the subject when Mr. Waring's work appeared.† I have thus been anticipated, and a continuation of a full inquiry rendered unnecessary by the able manner in which Mr. Waring has performed his task. It may not, however, be without its interest to know in what light the connection of dysentery and hepatic abscess was regarded by the medical men, whose reports have furnished Mr. Waring with his statistics, and perhaps others may concur with myself in coming to the conclusion, that not one regarded the two diseases in the light of cause and effect, with the exception of Dr. Parkes, whose theory assimilates with Dr. Budd's, in supposing that the blood, contaminated by the ulcers or secretions in the intestines, and conveyed to the liver, is the origin of abscess there. These are the writer's own words: 'Dysentery has been the most formidable disease to contend with; hepatitis less than what I had met with on the Tenasserim Coast; in no instance abscess.' (Report on H. M.'s 45th Regiment, 1832.) 'The increase of these diseases (hepatitis and

* Other reports dwell on the frequency of the complication at Bangalore. At Belgaum it seems of frequent occurrence, hepatitis alone varies at the same station. In a report on H. M.'s Light Dragoons, at Ajmeer, it is stated that "hepatic abscess was so common, that if a man came into hospital suffering under hepatitis, or any other acute disease, and eventually died, the probability was great in favour of one or more abscesses being found in the substance of the liver. At the same station, in the following year, it was almost as rare to meet with a case of hepatitis or hepatic abscess, as it had been common at the time referred to." In the D. Troop Horse Artillery, at Jaulnah, there was not a case of hepatitis between July 1839 and September 1840, while, in the following year, in the same months there were 15 cases;‡ there was nothing in the internal economy or cognizable atmospheric state to account for it.

† An 'Inquiry into the Statistics and Pathology of some points connected with Abscess in the Liver,' - 1854.

‡ I do not vouch that all 15 were inflammation of the liver, probably not, some mere congestion.

dysentery) was double in this month, and they were very frequently combined' (Report on H. M.'s 45th Regiment, 1833.)* 'Dysentery greatly increased after June, and the cases were very severe and fatal, being combined with hepatitis.' (Report on H. M.'s 55th, 1839.) 'It is of great consequence to distinguish the complication of hepatic abscess with dysentery.' (H. M.'s 54th.) 'It (hepatitis) was rarely concomitant with dysentery.' (H. M.'s 57th, 1839.) 'Dysentery at Bangalore is a very active disease, and is connected in very many instances with hepatic disease.' (H. M.'s 39th, 1833.) 'Fifty-five were brought back (to Bangalore) with dysentery, and four sunk, in all there were hepatic abscesses. The general character of the dysenteric cases was severe, and in almost every instance there was structural disorganization of the liver.' (H. M.'s 39th, 1834.) 'In some instances the two diseases (hepatitis and dysentery) were combined.' (H. M.'s 39th, 1836.) 'I have examined the bodies of forty-eight who have died of true dysentery, and have not found the liver disordered in one of them.' (Dr. Nicoll's Report.) 'If not complicated with hepatitis, dysentery in its worst form, &c.' (H. M.'s 41st, 1832-34.) 'Of these sixteen cases of dysentery, only a small number was discovered on dissection to have been true cases of colonitis, almost all of them have been found more or less complicated with organic lesion of the liver.' (H. M.'s 41st.) 'Hepatitis is frequently found complicated with dysentery, but whether as cause or effect, has not yet been satisfactorily determined.' (Essay on Hepatitis, by Dr. Nicoll.) 'In three of the cases of dysentery (out of 163 treated) the disease was complicated with extensive abscesses of the liver.' (H. M.'s 4th, 1840.) 'Our total (of dysentery) treated has been 108, with a mortality of twenty-six; of these, nine had the complication of hepatic abscess.' (H. M.'s 94th, 1840.)

"Now it is evident that not one of these writers regarded dysentery and hepatitis as dependent on each other in the light of cause and effect, but only as associated in some cases, and how few the proportion. Much negative testimony might be adduced, for other writers describe the two diseases apart, the thought not having apparently suggested itself that there was any pathological connection between them. It is not unreasonable to conclude that they are distinct diseases. Dysentery prevails everywhere;—it is the scourge of camps in all climates, it infests crowded transports and jails—but hepatitis has its localities; India is one of them, and why may not the two co-exist in the same individual, though pathologically disconnected? When hepatic abscess is the primary disease, is the bowel-complaint, when present, true dysentery, *i. e.* colonitis? Dr. Nicoll, whom I have quoted, says, 'diarrhoea is a common attendant on that affection of the liver, which does not run into suppuration rapidly.' I have met with three cases within the last few months, of intractable bowel-complaint, not true dysentery, in which hepatic abscess was disclosed; in one, only the day before death, in the second fourteen days, in the third the post-mortem revealed it."

* A large proportion of these cases (hepatitis) were complicated with dysentery, a great many instances of the latter disease showed well-marked symptoms of acute hepatitis.—(H. M.'s 55th, 1839.)

On the constitutional and local effects of Disease of the Supra-renal Capsules. By THOMAS ADDISON, M.D., Senior Physician to Guy's Hospital. (4to, London, Samuel Highley, 1855, pp. 44, with coloured plates.)

Series illustrating the connection between Bronzed Skin and Disease of the Supra-renal Capsules. By JONATHAN HUTCHINSON, Esq., Surgeon to the Metropolitan Free Hospital. ('Medical Times and Gazette,' Dec. 15th, 22d, and 29th, 1855, Jan. 19th, Feb. 23d, March 8th and 22d, 1856.)

In the work, the title of which is placed at the head of this article, Dr. Addison relates eleven cases which seem to show very clearly that another disease must be added to the catalogue of human maladies, and this a very important disease. The evidence is entirely and purely clinical, and the rationale is yet to be provided, but the fact appears to be indisputable.

The large supply of blood which the supra-renal capsules receive from three separate sources; their numerous nerves, derived immediately from the semilunar ganglia and solar plexus; their early development in the foetus; their unimpaired integrity to the latest period of life; and their peculiar gland-like structure, all point to the performance of some important office; but beyond an ill-defined impression that these organs minister in some way to the elaboration of the blood, nothing whatever is known about the nature of that office. And hence it is that the facts to which we are about to call attention, have a physiological as well as a pathological interest.

It was whilst engaged in investigating a remarkable form of general anaemia that Dr. Addison was led to the discovery of the disease in question, and this is a fact of some interest and importance.

"For a long period," he says, "I had from time to time met with a very remarkable form of general anaemia, occurring without any discoverable cause whatever; cases in which there had been no previous loss of blood, no exhausting diarrhoea, no chlorosis, no purpura, no renal, splenic, miasmatic, glandular, strumous, or malignant disease. Accordingly, in speaking of this form of anaemia in a clinical lecture, I, perhaps with little propriety, applied to it the term 'idiopathic,' to distinguish it from cases in which there existed more or less evidence of some of the usual causes or concomitants of the anaemic state.

"The disease presented in every instance the same general character, pursued a similar course, and, with scarcely a single exception, was followed, after a variable period, by the same fatal result. It occurs in both sexes, generally, but not exclusively, beyond the middle period of life, and, so far as I at present know, chiefly in persons of a somewhat large and bulky frame, and with a strongly marked tendency to the formation of fat. It makes its approach in so slow and insidious a manner, that the patient can hardly fix a date to his earliest feeling of that languor, which is shortly to become so extreme. The countenance gets pale, the whites of the eyes become pearly, the general frame flabby rather than wasted; the pulse rather large, but remarkably soft and

compressible, and occasionally with a slight jerk, especially under the slightest excitement ; there is an increasing indisposition to exertion, with an uncomfortable feeling of faintness or breathlessness on attempting it ; the heart is readily made to palpitate ; the whole surface of the body presents a blanched, smooth, and waxy appearance ; the lips, gums, and tongue seem bloodless ; the flabbiness of the solids increases ; the appetite fails ; extreme languor and faintness supervene, breathlessness and palpitation being produced by the most trifling emotion or exertion ; some slight œdema is probably perceived about the ankles ; the debility becomes extreme, the patient can no longer sit up in bed, the mind occasionally wanders, he falls into a prostrate and half-torpid state, and at length expires ; nevertheless, to the very last, and after a sickness of perhaps several months' duration, the bulkiness of the general frame and the amount of obesity often present a most striking contrast to the failure and exhaustion observable in every other respect."

This form of anæmia, in Dr. Addison's experience, with perhaps a single exception, has sooner or later terminated fatally, and as yet the examination after death has failed to reveal the fatal mischief. In the case last examined the heart had undergone fatty degeneration, and so had the semilunar ganglion and solar plexus, but this was an isolated case. Now it was whilst seeking to throw some light upon this very obscure form of anæmia, that Dr. Addison discovered a disease the leading and characteristic features of which are "anæmia, general languor and debility, remarkable feebleness of the heart's action, irritability of the stomach, and a peculiar change of colour in the skin, occurring in connection with a diseased condition of the supra-renal capsules." He proceeds :

"As has been observed in other forms of anæmic disease, this singular disorder usually commences in such a manner, that the individual has considerable difficulty in assigning the number of weeks or even months that have elapsed since he first experienced indications of failing health and strength ; the rapidity, however, with which the morbid change takes place, varies in different instances. In some cases that rapidity is very great, a few weeks proving sufficient to break up the powers of the constitution, or even to destroy life ; the result, I believe, being determined by the extent and by the more or less speedy development of the organic lesion. The patient, in most of the cases I have seen, has been observed gradually to fall off in general health ; he becomes languid and weak, indisposed to either bodily or mental exertion ; the appetite is impaired or entirely lost ; the whites of the eyes become pearly ; the pulse small and feeble, or perhaps large, but excessively soft and compressible ; the body wastes, without, however, presenting the dry and shrivelled skin, and extreme emaciation usually attendant on protracted malignant disease ; slight pain or uneasiness is from time to time referred to the region of the stomach, and there is occasionally actual vomiting, which in one instance was both urgent and distressing ; and it is by no means uncommon for the patient to manifest indications of disturbed cerebral circulation. Notwithstanding these unequivocal signs of feeble circulation, anæmia, and general prostration, neither the most diligent inquiry nor the most careful physical examination, tends to throw the slightest gleam of light upon the precise nature of the patient's malady ; nor do

we succeed in fixing upon any special lesion as the cause of this gradual and extraordinary constitutional change. We may indeed suspect some malignant or strumous disease; we may be led to inquire into the condition of the so-called blood-making organs; but we discover no proof of organic change anywhere,—no enlargement of spleen, thyroid, thymus, or lymphatic glands,—no evidence of renal disease, of purpura, of previous exhausting diarrhoea, or ague, or any long-continued exposure to miasmatic influences: but with a more or less manifestation of the symptoms already enumerated, we discover a most remarkable, and, so far as I know, characteristic discolouration taking place in the skin,—sufficiently marked indeed as generally to have attracted the attention of the patient himself, or of the patient's friends. This discolouration pervades the whole surface of the body, but is commonly most strongly manifested on the face, neck, superior extremities, penis, and scrotum, and in the flexures of the axillæ and around the navel. It may be said to present a dingy or smoky appearance, or various tints or shades of deep amber or chestnut brown; and in one instance the skin was so universally and so deeply darkened, that, but for the features, the patient might have been mistaken for a mulatto.

“In some cases this discolouration occurs in patches, or perhaps certain parts are so much darker than others, as to impart to the surface a mottled or somewhat chequered appearance; and in one instance there were, in the midst of this dark mottling, certain insular portions of the integument presenting a blanched or morbidly white appearance, either in consequence of these portions having remained altogether unaffected by the disease, and thereby contrasting strongly with the surrounding skin, or, as I believe, from an actual defect of colouring matter in these parts. Indeed, as will appear in subsequent cases, this irregular distribution of pigment-cells is by no means limited to the integument, but is occasionally also made manifest on some of the internal structures. We have seen it in the form of small black spots, beneath the peritoneum of the mesentery and omentum—a form which in one instance presented itself on the skin of the abdomen.

“This singular discolouration usually increases with the advance of the disease; the anæmia, languor, failure of appetite, and feebleness of the heart, become aggravated; a darkish streak usually appears upon the commissure of the lips; the body wastes, but without the extreme emaciation, and dry, harsh condition of the surface, so commonly observed in ordinary malignant diseases; the pulse becomes smaller and weaker, and, without any special complaint of pain or uneasiness, the patient at length gradually sinks and expires. In one case, which may be said to have been acute in its development as well as rapid in its course, and in which both capsules were found universally diseased after death, the mottled or chequered discolouration was very manifest, the anæmic condition strongly marked, and the sickness and vomiting urgent; but the pulse, instead of being small and feeble as usual, was large, soft, and easily compressible, and jerking on the slightest exertion or emotion, and the patient speedily died.

“My experience, though necessarily limited, leads to a belief that the disease is by no means of very rare occurrence, and that, were we better acquainted with its symptoms and progress, we should probably succeed

in detecting many cases, which, in the present state of our knowledge, may be entirely overlooked or misunderstood; and, I think, I may with some confidence affirm, that although partial disease of the capsules may give rise to symptoms, and to a condition of the general system extremely equivocal and inconclusive, yet that a more extensive lesion will be found to produce a state, which may not only create a suspicion, but be pronounced with some confidence to arise from the lesion in question. When the lesion is acute and rapid, I believe the anaemia, prostration, and peculiar condition of the skin will present a corresponding character, and that whether acute or chronic, provided the lesion involve the entire structure of both organs, death will inevitably be the consequence."

Dr. Addison then proceeds to speak of the difficulty attending diagnosis. The sallow anaemic conditions resulting from miasmatic poisoning or malignant visceral disease are the conditions most likely to be confounded with disease of the supra-renal capsules, and this Dr. Addison allows is not at all unlikely to happen in the early stages of the disease. Then follow the cases, of which we give the first in full and the others in abstract.

CASE 1.—James Wootten, *æt.* 32, admitted into Guy's Hospital, under Dr. Golding Bird, February 6th, 1850. Has been residing at Long Alley, Moor-fields, and is by occupation a baker. States that he was attacked with a cough three years since, which he was unable to get rid of by ordinary remedies, and was finally cured at Saint Bartholomew's, after taking pills for one week. From this time, his skin, previously white, began to assume a darker hue, which has been gradually increasing. Twelve months after leaving the above hospital, he was laid up from excessive weakness, the result of his cough, which had again appeared, and incapacitated him for his work. He now became an out-patient of Saint Thomas's, under Dr. Gooden, who cured his cough; and, thinking that the colour of his skin depended on jaundice, treated him for that disease, but to no purpose. He left the hospital in tolerable health, but subsequently lost flesh, and became so excessively weak, the colour of his skin at the same time getting rapidly darker, that he applied for admission here, which was granted him.

Present appearances.—The whole of the skin on the body is now of a dark hue, and he has just the appearance of having descended from coloured parents, which he assures me is not the case, nor have any of his family for generations, that he can answer for, manifested this peculiarity. The colour of the skin does not at all resemble that produced by the absorption of the nitrate of silver, but has more the appearance of the pigment of the choroid of the eye. It seems to have affected some parts of his body more than others, the scrotum and penis being the darkest, the soles of the feet and the palms of the hands the lightest; the cheeks are a little sunken, the nose is pointed, the conjunctivæ are of a pearly whiteness; the voice is puny and puerile, the patient speaking with a kind of indescribable whine, and his whole demeanour is childish. He complains of a sense of soreness in the chest about the scrofulous cordis. The chest is well formed and perfectly resonant; the sounds of the heart are also healthy; there is some slight fulness in the region of the stomach. The urine is of a proper colour, and he has passed in twelve hours one and a half pint, which has a specific gravity 1008, an acid reaction, and contains neither albumen nor sugar; there is also some pain, on pressure, in the left lumbar region.

February 8th.—Dr. Bird wished a likeness to be taken, so as to be able to

watch any alterations in his colour; and, considering the case one of anæmia, ordered Syr. Ferri. Iodidi, 3*j*, ter die; and middle diet. These he took the whole of the time that he was in the hospital, and was discharged in April, rather stronger, but the colour remaining precisely the same.

Shortly after his discharge from the hospital, he was seized with acute pericarditis and pulmonic inflammation, under which he speedily sank and died.

The following is a report of the post-mortem examination:

Lungs universally adherent, the adhesions being very old. The upper lobe of the right lung contained some small defined patches of recent pneumonia, about the size of a crown-piece, surrounded by tolerably healthy structure. The lower lobe was extremely fleshy and without air. The left lung was bound down by old pleuritic adhesions, which were very tough and difficult to be torn through. The substance of this lung was fleshy, and contained but little air. There was no tubercle or cavity. The mucous membrane of the bronchial tubes was considerably injected, and, I believe, rather thickened. The pericardium was distended with fluid of a deep brown colour, amounting to about half a pint; recent lymph was effused over the whole serous surface. The liver and spleen were both of weak texture, and easily broken down; the structure of the liver rather coarse. The gall-ducts pervious. The gall-bladder contained the usual quantity of bile, which was thin, watery, and clear. The thoracic duct was pervious throughout, and there was no obstruction to any of the veins or arteries, that I could discover. The colour of the blood in the arteries had an unusually dark appearance. The kidneys were quite healthy, and of full size. The supra-renal capsules were diseased on both sides. The left about the size of a hen's egg, with the head of the pancreas firmly tied down to it by adhesion. Both capsules were as hard as stones. Intestines pale. Lumbar glands natural. No tubercular deposit was discovered in any organ. The head was not examined.

CASE 2.—James Jackson, a tide-waiter, æt. 35, married, admitted into Guy's Hospital, under Dr. Addison, 11th November, 1851.

With the exception of a single attack of rheumatism, his previous health had been good, until about six months ago, when he had an acute illness, with vomiting, constipation, headache, and debility. Much debility remained after this illness, and the skin soon began to be bronzed. The colour now is a dark olive brown, and there are pigmentary deposits in the lining of the lips.

The expression of countenance is pinched and anxious; the pulse is of usual frequency, but extremely feeble; the bowels are constipated; there is a disposition to vomit, with some tenderness at the epigastrium. At the beginning there was some numbness of the fingers, legs, and tip of tongue, but this symptom has passed off. After death (the manner of death is not stated), both supra-renal capsules were found to contain compact fibrinous deposits, resembling tubercle, but there was no tubercle elsewhere. The gastric mucous membrane was inflamed.

CASE 3.—Henry Patten, æt. 26, a carpenter, married, and intemperate, under the care of Dr. Rees, November 9th, 1854. Previous health had been very good until two or three months before the colour of the skin began to change. The first symptoms were, pain in the back and right leg, followed by debility, wasting, and attacks of giddiness. The colour is dark olive-brown, deepened in patches. He is thin, pale, and very feeble, and he is very liable to attacks of fainting. There is sickness and hiccough, pain in back, occasional partial loss of consciousness, angular curvature of spine, and leucocytæmia. He gradually sank into a torpid or typhoid state. Both the supra-renal capsules were completely converted into a mass of strumous deposit,

and there were tubercles in the lungs. The lumbar vertebræ were carious, and there was psoas abscess. The spleen was rather large, and the blood leucocythæmic.

CASE 4.—John Iveson, æt. 22, a stonemason, admitted into Guy's Hospital 20th March, 1854. He died on the day following, and no history could be obtained, except that for several months he had been liable to pain in the stomach and vomiting, with tic douloureux. The face, axillæ, and hands, were of a dingy bronzed colour. When admitted there was sickness, vomiting, and pain in the stomach, with great debility and some emaciation. He died from collapse, and the prostration preceding death was so peculiar, and apparently causeless, as to suggest the idea of poison having been taken. Both supra-renal capsules were wasted and destroyed (apparently from previous inflammatory disease), and the two only weighed forty-nine grains. No other disease.

CASE 5.—Ann Roots, an adult. This case, which is taken from Dr. Bright's reports, occurred in July, 1829. There is no history. The "complexion very dark." Extreme debility: bilious vomiting; emaciation considerable; abscess in the breast and swelling of the right parotid. "There was no indication," says Dr. Bright, "but to support her strength." She sank gradually, becoming drowsy and wandering occasionally before death. "The only marked disease was in the supra-renal capsules, both of which were enlarged, lobulated, and the seat of morbid deposits, apparently of a scrofulous character." They were four times the natural size, and the left had suppurated.

CASE 6.—R. H—, Esq., a barrister, of middle age. His surface generally is dark and dingy. The face, neck, and arms, are covered with patches of deep chestnut-brown, with patches of white skin interspersed. There is great anæmia and extreme languor, and some emaciation, but the emaciation is not to an extreme degree. Vomiting is frequent, urgent, and distressing, suggesting the idea of malignant disease of the stomach. The pulse is of good size, but exquisitely soft and compressible. These symptoms had continued for about a year. "The patient speedily sank." The supra-renal capsules were greatly enlarged, of irregular surface, and much indurated; the natural structure lost. No nucleated cells could be found.

CASE 7.—M. T—, æt. 60. This woman died of ulcerated cancer of the breast, and the diagnosis of diseased supra-renal capsule was only formed in the post-mortem theatre of Guy's Hospital, when the bronzing of the skin was first noticed. The colour of the skin of the arms, chest, and face was of a peculiar light-brown and swarthy hue. The substance of both supra-renal capsules was invaded by a considerable amount of cancerous deposit.

CASE 8.—Elizabeth Lawrence, æt. 53, a servant, and unmarried. Always thin, but otherwise well. She had suffered for four months from dyspeptic symptoms, which symptoms began after she had been cured of a cutaneous eruption. The skin generally is very dark, particularly in the axilla and in the areola, around the umbilicus, and there are some patches of discolouration darker than the rest. She is emaciated and very feeble; she also suffers from irritability of the stomach. She died "from exhaustion" three days after admission into Dr. Babington's ward. After death the left supra-renal capsule was found to be destroyed by cancer, and there was cancer of the pylorus.

CASE 9.—Thomas Clouston, æt. 53, a sailor, married, and sober in his habits. About two months before his admission into Dr. Barlow's ward he began to lose appetite and to feel generally unwell; before this time he had been a healthy, muscular, strong-built man. The face is of a yellow bronzed tint, which became darker while he remained in the hospital. His symptoms were

sensation of sickness without actual vomiting, weakness and loss of appetite, rigors every five or six hours, no pain, pulse 80, rather feeble, bowels irritable. He became weaker and weaker, and at the end of a month after his admission, he died. Tubercular deposit was found in one capsule, and also in the spleen and kidneys (the lungs were not examined); black pigment was also found in the omentum, mesentery, and cellular tissue of the abdomen.

CASE 10.—Jane Roff, æt. 28. This patient died of cancer of the uterus, and the discoloration of the skin was not noticed until she was on the table in the post-mortem theatre. The skin had "a peculiar dingy appearance." She died from exhaustion. The vein emerging from the left supra-renal capsule was obstructed by a malignant tubercle, and the organ itself occupied by a recent extravasation of blood, its structure being otherwise healthy. The right capsule was healthy.

CASE 11.—An adult who died of cancer of the lungs, &c., and in whom one supra-renal capsule was found to be entirely disorganized by cancer. The disease of the capsule was not suspected during life; but in the clinical notes of the case we find that "the patient's face presented a dingy hue." There were freckles about the face, and brown discolouration at the root of the nose and the angles of the mouth.

Since the publication of Dr. Addison's monograph, considerable attention has been directed to the subject, particularly by Mr. Jonathan Hutchinson, whose able report in the 'Medical Times and Gazette' is deserving of all praise. This gentleman, indeed, has brought together the evidence adduced by Dr. Addison himself, and by others, and his comments upon the whole are of considerable value.

Mr. Hutchinson collects six cases in which the disease was unequivocally present, and nine cases in which the existence of the disease was not verified by post-mortem examination. We give the first six cases in abstract:

CASE 1.—An unmarried hawker, æt. 24, under the care of Dr. Burrows, in St. Bartholomew's Hospital, April 7th, 1854. In childhood he had had lumbar abscess. The first symptom of the present disorder was pain in the back. This was followed by emaciation and bronzing of the skin. This was eight months ago. The entire skin is of a dark copper-bronzed tint, with lighter patches on the chest and belly. The skin of the scrotum is almost black. The present symptoms are irritability of the stomach with vomiting, pain across the back with great debility, emaciation, partial loss of appetite. Death followed from the exhaustion occasioned by a dose of aperient medicine. Both supra-renal capsules contained pus, and some concrete bodies resembling hardened tubercle, and this was the only disease to be found.

CASE 2.—Charles Webb, æt. 24, a carpenter, admitted into Guy's Hospital, under Dr. Barlow, July 24th, 1855, and reported by Dr. Gull. Temperate. Previously robust. Five months ago he began to suffer from debility, breathlessness on exertion, nausea, "biliaryness." The skin generally is of a sallow olive brown, and most so about the knees. There are patches of black pigment within the lips. The symptoms were nausea, vomiting, great malaise and exhaustion, emaciation. The blood was loaded with white corpuscles. Urine healthy. He died rather suddenly from exhaustion. Both supra-renal capsules were atrophied and destroyed, the left containing cysts, the right some solid concretions. No other organs were examined.

CASE 3.—A man, aged 27 or 28, was admitted into the workhouse, at Purton, Wilts, under the care of Mr. R. Hall Bakewell, and died in a few minutes after admission. The entire skin was of a deep brown or bronzed

appearance, the colour being darkest over the thighs. He died from the exhaustion consequent upon a short journey, and nothing was known about his previous history except that he had been for some weeks in a low and weak state. He was not materially emaciated. Both supra-renal capsules were completely atrophied, and contained calcaneous concretions. The lungs were emphysematous, and there was fatty degeneration of the heart.

CASE 4.—A baker, æt. 20, a patient in the Middlesex Hospital, under Dr. Thompson. Previously of good health. Six weeks ago the skin began to be bronzed, and this was the first symptom of disorder. When first seen the entire skin was of a peculiar dark dirty-brown colour. Three days before his death he became suddenly languid, and then sank gradually into fatal collapse. There were no rigors. Each supra-renal capsule was as large as half a kidney; its structure was quite destroyed, being converted into a firm tubercular-like material, and in parts softened down. No tubercle was found elsewhere.

CASE 5.—C. Burke, æt. 20, under the care of Mr. H. Curling, at the Royal Sea-bathing Infirmary at Margate (the case is reported by Dr. Rowe, March 24th, 1856) for strumous disease of the knee-joint. His health had always been delicate. Eight months ago the skin began to be bronzed, and now the skin generally is brown with some darker spots. His general health, however, seemed to improve until the 2d of August, when, after having suffered from diarrhoea for two days, he had an epileptic fit. During the next day and the day following he had several such fits, and he was greatly distressed with vomiting. On the 3d he was violently delirious, and on the 4th, he died in a semi-comatose state. The discoloration of the skin had become much darker during the three or four weeks preceding his decease, and a disgusting odour was exhaled from the breath and skin. He was fat and muscular to the last. Both supra-renal capsules were destroyed, and contained cheesy, gritty, and semi-purulent deposit, and this was the only visceral disease which could be found.

CASE 6.—John D. Burrows, æt. 57, a publican, of intemperate habits, admitted into St. Bartholomew's Hospital, under Dr. Farre, April 1st, 1856. He suffered from delirium tremens when admitted. A year previously he had suffered from pains in the loins. The entire skin was of a peculiar yellowish brown, and this state had existed for three weeks or more. He died from delirium tremens after a fortnight's illness, sinking into a typhoid state, with low delirium, for some days before death. Both supra-renal capsules were converted into abscesses, but their cortical structure was not wholly destroyed. There were circumscribed abscesses in the loins.

Besides these cases Mr. Hutchinson collects ten cases (one communicated by Dr. Ranking) in which the symptoms during life were such as to warrant the belief in the existence of disease in the supra-renal capsules, but in which the diagnosis was not confirmed by examination after death. These cases are very interesting, but they cannot well be admitted as evidence.

Commenting upon the entire number of cases, Mr. Hutchinson says :

"In twelve both supra-renal capsules were proved by post-mortem examination to be destroyed by chronic disease, and in every one of these the change in colour of the skin was marked and positive, and the death had been attended by peculiar symptoms of debility. In seven others no post-mortem was obtained, but the kind of cachexia and mode of death had very closely indeed resembled those in which, after death, the theory was confirmed. In one, the patient is still living, the symptoms quite

corresponding with those usually met with, and appearing to be irre-mediable. In one, both organs were affected by recent suppuration, and in this only a yellowish brown tint was noticed, the disease having probably not existed long enough to produce the characteristic pigmentary change of hue. In four, the disease affected but one of the organs, the other remaining healthy, and in these only a slight (but yet positive) degree of the bronzing had been observed. It cannot be necessary to stop to point out that the but partial extent to which the change in tint of the skin had proceeded in the latter cases, so far from constituting any exception to Dr. Addison's opinion, strongly confirms it. Just in proportion to the extent to which the supra-renal organs are structurally disorganised, and to the length of time which they have been so, appears to be the intensity of the cutaneous discolouration. From this it seems fair to argue, that they probably stand to each other as cause and effect, and are not coincident effects of some other cause. Thus, then, of the whole number recorded (twenty-eight) we have twenty-five the evidence of which is more or less in favour of the theory under discussion."

Nor is it different with the three seemingly exceptional cases.

"In case No. 26, the patient recovered, and after lasting somewhat more than a month, the peculiar 'dirty-brown tinge' of the skin disappeared. Now, there is every reason for believing, that, in this instance, no pigmentary change had taken place, and that the state described was rather a diffused muddiness than a real bronzing. The reason for believing so is, that the change took place suddenly, and was complete in the course of a day or two. Possibly it was of hepatic origin; at any rate it may be presumed to have had a different cause from that of the change which in all the other cases was very slowly progressive, and requiring several months for its development. In the second exceptional case, a woman who died of cancer had shown no alteration in the colour of the skin, and yet malignant deposit was found in both supra-renal bodies. Here, however, a considerable degree of functional vigour may have been retained, since neither organ was wholly involved, and in one, only a few small nodules existed. It is very possible that the portions remaining healthy may have sufficed for the wants of a body which had been reduced to extreme emaciation by long-existing disease. Case 21 of the Table supplies us with what is more like a real exception than any other. It is, however, to be remarked, that no mottling of the skin had been observed, only a diffused muddy condition, and that some doubts had been expressed during life as to its being an example of true bronzing. The patient, moreover, had not been seen by the reporter for some months prior to death, and no note was made as to the state of the skin at the date of that event. On account of these circumstances of doubt, we may, perhaps, fairly hold this case as not proving anything, and if so, the whole of the seeming exceptions are disposed of."

Mr. Hutchinson's report also furnishes us with what is very necessary to enable us to form an opinion upon the subject of which it treats. It shows us that the signs of diseased supra-renal capsules are not present when these organs are healthy. This part of the report is from the pen of Dr. Wilks.

"In confirmation of the views held by Dr. Addison respecting the connexion of disease in the supra-renal capsules, and a peculiar discolouration of the skin, I may state that the negative facts which we

have now obtained in large numbers at Guy's Hospital, all tend to prove the same point. Since that physician commenced his researches on the subject, every opportunity has been taken to test his conclusions by a careful observation of the supra-renal organs in the bodies of all that have undergone a post-mortem examination, and during the last two years no case has failed to pass under the observation either of Dr. Habershon or myself. During this period, in the making of above five hundred inspections, only two cases have been met with where disease of these organs was found without having been previously diagnosed. In the first (published in Dr. Addison's book, Case 11, p. 39,) a patient had died of cancer, and in one supra-renal capsule was discovered a large mass of cancerous disease which involved its entire structure. Before death, no particular notice had been taken of the browning of the skin, but, on referring to the clinical clerk's report, it was found stated that 'the patient's face presented a dingy hue.' This report was confirmed on more careful inspection of the skin, there being freckles on the face and a slight brown discolouration at the root of the nose and at the angles of the mouth. In the second case, a few malignant tubercles grew from the surface of one of these organs, but did not encroach upon its structure. In this the skin was not browned. In no other case has any appreciable disease been discovered, although it might have been supposed that the supra-renal bodies would not have escaped in those instances where the whole of the abdominal organs have been infiltrated with cancer or tubercle. Such, however, has not been the case; for, on the contrary, when they have been affected, the disease has generally been isolated or has occurred in independent growths. These facts, then, tend to strengthen the conclusions arrived at by Dr. Addison.

"When I speak of disease of those organs, I mean the palpable destruction of their substance, by adventitious deposits, as cancer or tubercle, for the morbid changes in the supra-renal capsules, allied to the results of inflammation or degeneration of other viscera, have yet to be studied, nor can they be appreciated unless the observations of those peculiar bodies be much further pursued, and their healthy anatomy better ascertained. That the healthy or normal appearance is not understood, is seen in the fact, that anatomists have taken different conditions as illustrating the standard of the healthy organ. Thus Frey, in the 'Cyclopædia of Anatomy,' says that the supra-renal capsule is divided into a cortical and medullary substance, the former being yellowish-brown and the latter reddish-brown; the delicacy of the medullary substance and its vascular nature making it very decomposable, and causing the appearance of a cavity after death. Kölliker gives a similar description of the cortical substance, but states that the medullary is of a grayish-white colour, that its consistence is less than that of the cortical, and that after death the two portions of the organs become separated, and that often a cavity is thus formed in the centre. These appearances given by Frey and Kölliker are both met with, but that by the latter is no doubt the normal one; the former author's description is, therefore, very apt to mislead, for if the usual healthy appearance of the organ is red, as he states, the white substance, when found, may be mistaken for the result of disease, which has been sometimes the case. The account given by Kölliker, I believe to be the more correct, because in persons who have been killed by accident

in whom I have purposely examined these organs, the central medullary portion has been of nearly a greyish-white colour, and in those who have been the subjects of cardiac or pulmonary obstruction, or in those long dead, the centre has been generally red and soft. This, however, is not sufficient to account for the different appearances met with, and it still remains to be decided, whether they be due to disease, age, or post-mortem changes; I believe myself that the latter is the cause.

"If a section be made through what I believe to be the normal organ (*a*), the cortical portion will be seen in a narrow rim forming its

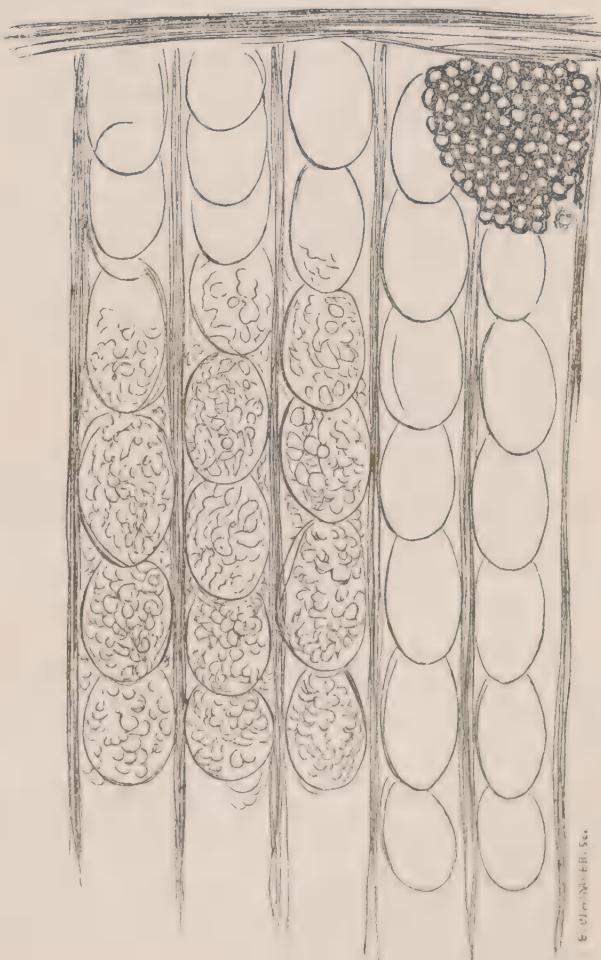
periphery, and consisting of a rather soft substance of a yellow or yellowish-brown colour, the inner edge generally the darker. This structure, as is well-known, is

A.



composed of radiating rows of tubes (*b*) or apparent tubes, (at all events the fibrous envelope sends in processes between the rows of vesicles,) contained large oval vesicles, arranged end to end, and which structure is readily displayed by the addition of liquor potassæ to the microscopic section (*c*). The medullary portion is white and harder (not softer, as Kölleker says) than the cortical; it is composed of another tissue containing nucleated cells and nuclei (*e*). Within this again is a brownish substance of greater or less extent, immediately surrounding the supra-renal vein, sometimes altogether wanting, at other times existing, to the total absence of the normal white substance (*d*). In a good specimen, this white medullary part may reach to either end of the

B.



Engraving by S. S. S.

organ, but, if not, it is generally found in the middle portion surrounding the large venous trunk, for at this

part a piece of the organ being as it were pinched up, (and thence its resemblance to a cocked hat,) it is of considerably greater thickness. It may, however, as before stated, be altogether absent and replaced by the brown soft medulla described by Frey. It is of primary importance to know the usual appearance of the organ as presented to the naked eye, but its minute anatomy is very interesting, as well as its vascular and nervous supply. The arteries coming from three different sources make it more difficult to inject through them, but through the single large venous trunks it is very readily done. The distribution of nerves is remarkable from its extent.

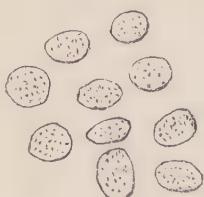
"It will be seen that

D.



much in the cortical portion,

E.



"have classified the supra-renal capsules with glands, for no other reason than that they could not conceive what else they should be; but recent microscopic inquiries would again refer them, as Wharton did, to the nervous system. This celebrated anatomist, after reciting the names

* *Explanation of the Engravings.*—A. Section-diagram of a healthy organ, showing the soft, yellow cortical portion—the inner dark border of the cortical portion—the white and firm medullary substance. In the centre of the latter are seen the cut extremities of two veins. (Not magnified.)

B. Magnified horizontal section of the cortical structure, showing the fibrous envelope sending in trabeculae by which the columns of vesicles are separated and converted into apparent tubes. In the upper right-hand corner is seen a cluster of fat vesicles, with pigment.

C. The cortex after treatment with acetic acid, the fibrous partitions having been rendered transparent, and the rows of vesicles alone remaining visible.

D. Section-diagram of an organ, in which the medullary portion has been converted from a whitish to a dark-brown structure. (Less than the natural size.)

E. Cells from the medullary portion.

the organ requires much further study in order to ascertain if the differences in its appearance, above given, be really due to decomposition, or are in fact pathological;—other morbid changes also have yet to be observed. With reference to the amount of fat present, I may state that this varies very excess amounts to a true fatty degeneration."*

We have here, then, evidence of a new and very important disease, a disease which will, in all probability, explain the physiological uses of the supra-renal capsules. What these uses are we have yet to learn.

"Systematic physiologists," writes Dr. Gull,

which had been applied to them, says, 'Many others might, probably, be given, but that which seems to me to square with them most is "glandulæ ad plexum," or "glandulæ ad plexum nervium." After contending that these organs do not belong to the lacteal system, he enlarges on their remarkable connexions with the ganglia of the solar plexus, and states an obscure hypothesis of their separating a fluid from the nervous structures into the veins.

"Though our advances in the physiology of nervous action give no support to such an hypothesis, it is yet probable that, in the remarkable nervous connexions of the supra-renal capsules, he pointed out the foundation of their physiology. It is impossible for any one to survey the anatomical relations of the semilunar ganglia to these organs, without feeling how strong the probability is of such a conjecture.

"Their general and microscopical anatomy is also more or less confirmatory of such a view of their function, as well as the newly-observed clinical facts when they are diseased, namely, the great exhaustion, the feebleness of the heart's action, the nausea, vomiting, &c.

"The two structures which compose the capsules are similar in general and microscopical appearance to the two structures which compose that appendage to the brain, which we still continue to call the pituitary gland. Also the remarkable venous sinuses which bathe the one, are comparable to the numerous veins which fill the interior of the others. The most distinguished of modern anatomists have admitted that the medullary structure of the capsules is similar to the grey matter of the brain, and Kölliker, in his 'Microscopical Anatomy,' says, that he cannot but agree in those views, especially as he finds in this structure caudate cells which very much remind one of nerve-cells; and he adds, that the cortical and medullary portions entirely differ from the parenchyma of the thymus or thyroid with which the renal capsules have been associated; while the enormous supply of nerves to the medullary portion gives them a character quite peculiar, since we have no secerning organ in the body remarkable for its nervous supply."

Be this as it may, however, the pathological facts remain, and the thanks of the profession are due to Dr. Addison for the discovery of a new disease, and for the elegant and perfect manner in which he has made that discovery known.

- I. *Quarterly Returns of Deaths in England and Wales during 1855.*
- II. *Weekly Returns of Deaths in London during 1855.*
- III. *Quarterly Returns of Deaths in Scotland during 1855.**

I. Contrasted with previous seasons, 1855 proved more salubrious in England than usual, especially during its latter portion. Unlike 1854, last year was comparatively healthy, being free from any severe visitation.

* As on previous occasions, we are indebted to Dr. Webster, F.R.S., for the present able Report.

Before entering into particulars, it seems interesting to state that, throughout England and Wales, the total deaths, from all causes, amounted, in 1855, to 426,242, or 11,997 fewer than in the year immediately preceding, when 438,239 fatal cases of every kind were recorded. Therefore, notwithstanding some exceptions, afterwards specified, public health appeared on the whole satisfactory, if not better than in several former seasons, when the general population was less considerable. This feature proved especially prominent during the third and last quarters of 1855, when the aggregate deaths were 185,053, instead of 241,189 in the previous six months; thus giving a diminution of 59,136, or upwards of one fourth, if compared with the mortality recorded in the first and second quarters of last year. In reference to which result it ought, however, to be stated, the greatest increase of fatal cases occurred during the first quarter, or coldest months: when 134,605 human beings were called to their final account, thus giving 28,025 deaths beyond the number reported in the subsequent three months, or April, May, and June. This forms an instructive fact; and shows that, the public health had already become ameliorated, and so continued uninterruptedly throughout each subsequent division of the year.

Notwithstanding these general remarks, during the first three months of last year, it appears several diseases proved very fatal. Thus, in some parts of Surrey, as at Guildford and Farnham, smallpox and bronchitis prevailed extensively, owing to the severe weather and high price of provisions. Scarlatina was very rife in Kent; and at Dartford smallpox became so common that, from 40 to 50 cases occurred simultaneously: but the only deaths thereby occasioned were in persons not vaccinated. In Winchester many individuals died from pulmonary diseases, whereby the general mortality became unprecedentedly high. At Exeter catarrh seemed epidemic; and the extreme severity of the cold produced a number of deaths from diseases affecting the respiratory organs. Typhus prevailed much at Polman, a seaport in Cornwall; whilst at Truro the deaths ranged considerably above an average, in consequence of the prevalence of influenza. In some central districts the public health was by no means satisfactory. For instance, at Bedford the deaths were nearly double the average, such mortality arising from bronchitis, pneumonia, and influenza. At Dudley also, fatal cases were more numerous than in any previous quarter, particularly from pneumonia among children; 90 persons having died of that malady, 30 by bronchitis, 20 from fever, and 5 of cholera, during three months. Scarlatina proved very fatal in many districts of Lincolnshire; whilst in some parts of Lancashire the public health fell under an average. However, in Chorlton the quarter showed an excessive mortality; seeing, in the Hulme district alone, out of 564 deaths, 245 were caused by diseases of the chest and respiratory organs: occasioned mainly by intense north-east winds, which proved more than usually destructive to human life, but especially among children, and aged persons, of whom 11 were from 80 to 93 years old at death. Again, in the Regent Road district of Salford, scarlatina of a very malignant type prevailed; whilst many old people died of bronchitis. Lastly, in the Deansgate division of Manchester, the total

mortality proved very high during the quarter, pulmonary diseases having carried off 164 cases, and pertussis 27, all being children. Such subjects also often became victims of other maladies, since, out of 340 deaths registered in this locality, 166 were those of young persons under 5 years of age. Some parts of Yorkshire were likewise far from healthy; Knaresborough having suffered from very malignant and fatal scarlatina. In Todmorden the deaths were also much above an average, but principally among young children and old people, by pulmonary diseases. At Scarborough, likewise, an increase in the number of deaths occurred, especially from measles and bronchitis, which proved often fatal amongst young and aged persons. Further, Penrith exhibited an excess of deaths, scarlatina having proved very fatal; the same at Cockermouth, where that disease and measles were very prevalent and fatal. In some districts of Wales, the mortality ranged likewise above an average. Thus, at Newport, scarlatina, typhus, pertussis, bronchitis, as also pneumonia, were very rife, and caused death in a great number of children. At Holywell, scarlatina and influenza were very common and fatal. Much the same may be said respecting Wrexham: where measles, scarlatina, pertussis, and pneumonia caused an increase of deaths during the early part of this quarter, when severe weather, with high-priced provisions, produced considerable effect on the health of young and old people.

During the second quarter, although the public health throughout England exhibited some improvement, compared with the previous three months, still, the mortality was greater than in the corresponding period of 1854: an actual increase being then recorded of 3918 deaths. In the South-Eastern districts several diseases were rather prevalent; for instance, at Canterbury, smallpox, scarlatina, and bronchitis seemed unusually rife. In Guildford the deaths were above an average; whilst Farnham suffered much from measles, hooping-cough, and low fever; whereby the fatal cases ranged nearly fifty per cent. more than in some former periods. Worthing also proved most insalubrious; the mortality in the district of Broadwater being sixty per cent. beyond an average; and in that of Littlehampton the ratio appeared considerably increased, owing to the prevalence of scarlatina and measles, which proved lethal amongst young children. Both at Alverstoke and in the city of Winchester the deaths exceeded the number of births; scarlatina having been fatal to many young children in the former district; whilst that disease, measles, pulmonary affections, and erysipelas were common in the latter; such sickness being referred to the protracted and unusual coldness of the season. In the towns of Bedford and Northampton an augmented rate of mortality was observed, chiefly from scarlatina and pneumonia. Again, in some parts of Cambridgeshire, as at Newmarket and Caxton, the same maladies likewise prevailed; deaths by the former disease having become unusually numerous amongst children, in the above-named celebrated horse-racing locality. Although several districts in the eastern part of England were healthier than ordinary, Norwich, Thetford, and some places besides, however, supplied a higher proportion of deaths than ordinary; smallpox, measles, and scarlatina having raged epidemically throughout certain parishes, both of Essex and Norfolk.

In Wiltshire, Devon, Cornwall, and Somerset, the mortality rose higher than that reported during the previous year; although, in other parts of the south-western division, it was about an average. The excess of deaths proved considerable in Chippenham, Stoke Damerel, and Liskeard; whilst the mining population in Cornwall by no means exhibited satisfactory sanitary conditions. Throughout Staffordshire and Warwickshire the mortality ranged lower during this quarter, than that reported in the preceding spring; but scarlatina, measles, and variola were reported as prevailing in some districts of Shropshire. In Lincolnshire the ratio of deaths was above, but in the counties of Derby, Notts, and Leicester it fell below, that of the previous spring quarter. But scarlatina having proved rife in Horncastle, Caistor, Gainsborough, and the city of Lincoln, that malady caused an augmented mortality in these localities. Although at some parts of Lancashire public health was unsatisfactory, in consequence of measles and scarlatina having prevailed throughout several districts, and whilst the mortality rose higher in Manchester than during the two previous springs, Liverpool, on the contrary, seems to have been unusually salubrious. For instance, in the West Derby district of that hitherto often unhealthy commercial town, the population was reported in a very favorable state. This was said to be owing to the great extent of street- and house-draining and cleansing, and to other sanitary improvements. Wigan was likewise stated as healthy; street-sewerage, drainage, and the removal of nuisances being there in active operation. At Bury, the deaths ranged also under the average; whilst the mortality of Chorlton fell below the ordinary amount; proving the healthy condition of that district. Similar remarks apply to other localities, amongst which Ashton-under-Lyne may be enumerated. Here, notwithstanding fewer deaths than usual were recorded, it appears that, amongst 179 cases of fatal disease in the Dukinfield district, actually 41 persons who died were medically attended by persons who hold no legal qualification: irrespective of those patients so treated who recovered. This is a truly lamentable condition for Ashton-under-Lyne, which ought to be investigated judicially, and, if possible, corrected by the public authorities. Throughout Yorkshire the deaths reached below an average number, the decrease being chiefly in the West Riding: particularly at Leeds and Sheffield, which were healthier than in the two previous springs. Some localities, however, of the East and North Ridings, exhibited an augmented mortality. Thus, at Beverley, Driffield, Thirsk, and Northallerton, the deaths were above an average; scarlatina in a malignant form having been very prevalent in the latter town, where three deaths took place in the same house, within two weeks, from that malady. The northern portion of England experienced an ordinary amount of sickness followed by deaths, but especially from small-pox and scarlatina, which proved fatal in some districts of Durham, as likewise in the county of Northumberland; the latter, or variola, having been very rife at East Chevington, where, however, the cases proved of a mild character in patients previously vaccinated, although severe when not so protected. In the principality of Wales nothing very remarkable was exhibited, the mortality being near an average, notwith-

standing measles prevailed at Abergavenny, Crickhowell, and Swansea ; in which latter place, 44 fatal cases occurred thereby in 206 deaths.

The improvement noticed in the second quarter, which, as already stated, characterised public health, continued even more remarkable during July, August, and September, than in the three months immediately preceding. The returns of deaths exhibiting, as their general result, a striking amelioration, contrasted with those reported in the summer quarter of the previous year. This feature may be further illustrated by the circumstance that, the annual rate of mortality, during these three months, was about $18\frac{1}{2}$ deaths per 1000 persons living ; while the average proportion of the summer quarter, in the previous ten years, reached to nearly 22 deaths per 1000 inhabitants. Viewed, however, in reference to town and rural populations, the fact is worth recording that, the annual rate of mortality in the former was rather more than $21\frac{1}{2}$ deaths per 1000 residents ; but in the latter, the ratio scarcely exceeded $16\frac{1}{2}$ per 1000 ; being thus upwards of 5 fatal cases more comparatively, in towns, than in the open country.

Although sanitary reports proved satisfactory from the south-eastern parts of England, some districts experienced considerable sickness. Thus, fever prevailed at Bromley amongst children, and at Gillingham, on the Medway, dysentery, diarrhoea, and rubeola, were common ; the deaths having been increased by fatal cases amongst invalids from the Crimea, as also of some seamen belonging to the Baltic fleet. Further, at Folkestone, the deaths far exceeded an average, caused by cholera, which had been present amongst soldiers of the British Foreign Legion. The counties of Essex, Suffolk, and Norfolk were however marked by salubrity ; the mortality having fallen to nearly the same extent as in the other division. Indeed, the rate even ranged lower than that recorded during 1853, which was reported healthy. In most midland districts, the deaths were also less by nearly one fifth, than those enumerated during the summer quarter of the previous year. Scarlatina, on the other hand, prevailed in Bedford, as also diarrhoea and typhus fever ; 28 persons at least having died of the above eruptive malady ; amongst whom 14 were children aged 3 years and under. It should be here specially mentioned, in reference to scarlatina, notwithstanding many fatal cases of that epidemic occurred in the better classes, a great majority of deaths from this and other zymotic diseases, took place in the most drained and most densely populated localities, Bedford, in its sanitary condition, being reported as very unsatisfactory.

Throughout the south-western counties, the mortality likewise ranged below an average compared with the former parallel season ; hence, showing a favorable sanitary condition amongst the population ; independently of any previous removal of weakly people by epidemic cholera. At Redruth, for instance, the quarter proved unusually salubrious ; the healthy condition of the residents being ascribed, by local authorities, to the fact that, frugality in eating and drinking prevailed ; whilst greater attention had been given to sanitary matters. At Bedminster, notwithstanding the deaths were under an average, it deserves notice as an instructive fact that, nearly one half of the fatal cases reported were of children under one year old.

The midland parts of England, like most other districts, furnished a low rate of mortality; Wolverhampton, Dudley, and other populous localities having been salubrious. But, although Birmingham lost some lives by diarrhoea, this large town, always considered healthy, proved unusually so during last summer. Cheshire and Lancashire supplied reports of a similar satisfactory character: the total deaths in these two densely peopled counties having been only 14,903, against 17,229 during the previous parallel quarter; that is 2326 fewer fatal cases. Nevertheless, it should be added, diarrhoea prevailed in Chester; and one death from cholera was registered. On the other hand, Liverpool and Manchester exhibited signs of increased salubrity. In Yorkshire the sanatory improvement was equally satisfactory; especially at Leeds and Hull, which were healthier than usual. Newcastle-upon-Tyne, Sunderland, and Tynemouth, like many other localities, experienced a low rate of mortality. Whereas, Morpeth proved unhealthy, various epidemics having there been prevalent, especially scarlatina; which, in one of the sub-districts, caused 19 deaths amongst a total mortality of 70; whereby the number of casualties from all diseases exceeded an average, if compared with the last six years. Lastly, in Monmouthshire, and throughout Wales, the mortuary rate, during the three months under consideration, ranged below either of the summer quarters of the two previous years; in fact, such a healthy season has seldom been experienced as the one briefly alluded to in the present paragraph.

During the last three months of 1855, the sanitary condition of both town and country districts continued to improve. Contrasted with the parallel quarter of 1854, the actual diminution amounted to 12,545 deaths. Amongst urban populations, the rate of mortality ranged 24 in 1000 residents; whereas in country parishes, it fell so low as 18 in every 1000 inhabitants; the average amount, during ten preceding corresponding seasons, being nearly 26 deaths in 1000 residents throughout large town districts; and 20 in the small town or country localities. The south-eastern parts of England were comparatively healthy, the deaths being slightly below an average; Croydon and Dartford, which had formerly suffered from epidemics, being now more salubrious. Smallpox prevailed at Canterbury, and scarlatina in the Isle of Wight and at Winchester. Although the mortality was much lower in many south-midland counties, still epidemics prevailed in a few districts. Thus, variola proved fatal at Ware, in the densely populated courts and alleys of that town; where vaccination seems to be much neglected. In Royston, typhus was very prevalent: sanitary arrangements having been greatly overlooked. Scarlatina raged fatally in Welwyn, Harpenden, Chesham, Bedford, with other districts of that county; as also in Ely, Wisbeach, and Cambridge, where fever was likewise present; whilst smallpox occasioned some deaths in these counties. Mortuary reports ranged at a low figure in East Anglia; with the exception of Risbridge, King's Lynn, Saffron Walden, and several other localities. Scarlatina proved prevalent, and in a malignant type, at Downham; as also in the Ingatestone sub-district. Erysipelas, chiefly of the face, was very common in Coggeshall; whilst several fatal cases of typhus and scarlatina occurred

in the parish of Ramsey, near Harwich : which is considered a most unhealthy place, being near a large marsh, and much in want of drainage. Contradistinguished to this unfavorable condition, it merits mention that, at Sudbury, not very distant, only 54 deaths, out of a population comprising 8000 persons, were reported during six months : and an improvement in the health of another district, viz., Rattlesden, was ascribed to sanitary regulations ; thus furnishing an instructive example for others to imitate. In the south-western counties, the mortality was below an average, although scarlatina and fever became prevalently fatal throughout several districts.

Such was the general character of public health, in this division of England ; but it should be here mentioned that, in consequence of the wreck of a large barque, near St. Keverne, in Cornwall, the burials were greatly in excess : the bodies of 93 persons having been cast ashore from the above vessel. Similar to most places of South Britain, the counties of Gloucester, Hereford, Salop, Stafford, Worcester, and Warwick, experienced a rate of mortality much below their average ; the total casualties in these districts being 11,172, against 13,611 during the corresponding quarter of 1854, thus giving a diminution of 2439 deaths, or more than one fifth. This decrease of mortality being most striking in large towns, viz., Bristol, Clifton, Wolverhampton, Dudley, and Birmingham. In Coventry, however, there was very little decrease of deaths : many children under three years of age having died in the Holy Trinity sub-district of that city, from diarrhoea and convulsions. Lincoln, Leicester, Nottingham, and Derby proved likewise salubrious ; but in Cheshire and Lancashire the improvement of public health was less extensive than in some other counties ; the deaths in Liverpool and West Derby, where scarlatina prevailed epidemically, having been numerous, besides many fatal cases at Runcorn, by the same malady. Manchester and Salford, however, exhibited more salubrity. Lastly, it should be again specially noticed that, at Ashton-under-Lyne, no less than 62 persons who died, out of 248 recorded in the Dunkinfield district of that town, were actually attended by individuals *holding no medical qualification!* Surely, the magistracy are sound asleep, or have abdicated their functions ! Throughout Yorkshire, public health was again satisfactory, a considerable decrease of mortality having been experienced : although fever proved very fatal amongst children at Halifax. Scarlatina was rife at Knaresborough, and that eruptive malady, as also measles, raged near Northallerton. In various districts, for example, at Leeds and Hull, improved sanitary arrangements were reported as having contributed materially towards the healthy condition of residents, which facts are highly satisfactory and most creditable to all local functionaries.

The influence of various causes upon public health may be well illustrated by a reference to the township of Thornton Steward, where, in consequence of an overflow of water from the River Ure, nearly 40 cases of typhus were produced in a population of not more than 200 inhabitants. Again, although the counties of Durham, Northumberland, Cumberland, and Westmoreland manifested, speaking generally, a mortality below the average, nevertheless, scarlatina pre-

vailed with much severity in the colliery districts of Durham, especially at two villages situated in Easington, where the epidemic was most fatal ; augmented, doubtless, by the low situation of these localities, and from the soil being damp, marshy, and badly drained. At South Shields, near which many men were employed in the construction of an extensive dock, typhus and scarlatina prevailed ; and in one district of Gateshead the deaths were numerous by the latter disease ; hence making the aggregate mortality above an average. Lastly, in Morpeth, disease fearfully prevailed, whereby the deaths increased more than ordinary. Smallpox raged among all classes, affecting both old and young ; those not vaccinated being great sufferers. Scarlatina and typhus were likewise prevalent, several cases of illness having very rapidly had a fatal termination. The Principality, on the whole, proved healthy, the aggregate mortality having been reported less than in the two previous years, although typhus and scarlatina attacked some districts, as Tremadoc, in North Wales : where, among a total of 57 deaths, 33 were children, cut off by scarlatina. Notwithstanding these exceptional facts, the public health of England and Wales exhibited unequivocal evidences of improvement.

Vaccination having recently become the subject of much discussion, even in high places, and the legislature, whilst extraordinary opinions have been enunciated, almost characteristic of the dark ages, one or two remarks on that important subject connot seem out of place, before concluding the present outline of the sanitary condition of England.

Although cow-pox is now very much neglected in various districts, and at some places, such as Newport, Monmouthshire, there is felt a great objection on the part of the people to vaccinate their children, the operation being, as they even assert, followed by loathsome diseases, still this valuable prophylactic does not seem, according to the published reports, in so much disfavour as some years ago. It is also satisfactory to find, wherever smallpox has proved fatal, a great majority of these deaths occurred amongst children who had never been vaccinated ; whilst in some places, vaccination is stated to be now more attended to than formerly. Thus, at Barnsley, in the West Riding, 440 children are reported to have been successfully vaccinated during six months. Further, it deserves being mentioned that, in St. Peter's district, Brighton, out of 1383 births registered last year, 1274 genuine cases of cow-pox were certified by qualified practitioners. These are gratifying facts, indicating improved public opinion ; and if more judicious legislation were enforced, doubtless greater progress in advance would be accomplished.

When it is remembered that, prior to the introduction of vaccination, smallpox often carried off many thousand persons during a few months, even in London, which had not half its present population ; whilst further, 20,000 persons are said to have died by variola in Paris during 1720 ; and also that it frequently ravaged many European countries, even more destructively than the plague ; the recent mortality by so very loathsome a disease is by no means discouraging, notwithstanding much blind prejudice and ignorance, respecting the great benefits of cow-pox, may yet prevail amongst some classes of the community. Lastly, seeing that only 12,561 per-

sons have died in the metropolis from variola during the last fifteen years, it is plain that vaccination must have saved thousands upon thousands.

On a former occasion, several remarks were made in reference to promoting vaccination more generally, throughout all classes, especially the ignorant and prejudiced; the chief suggestion then offered being, to compel every person, prior to accepting any public appointment, or receiving pay from Government, to prove they had first been properly vaccinated. Such regulations now work well in other countries. Therefore, were somewhat similar rules established in Great Britain, and carried out effectually, few outbreaks of epidemic smallpox would be heard of, like the occurrences recently reported from ships of war on service, or in various militia regiments. These suffered much, according to public and authentic statements, in consequence of variola having broken out amongst both seamen and recruits, who had never been vaccinated. Farther, many of the metropolitan police are not protected by previous vaccination, which deserves censure, seeing their duties often expose them to infection, even more than most classes. The fact of smallpox having been frequently observed amongst policemen, is shown by the number of constables belonging to that body sent to the Smallpox Hospital during last year, when affected by this disease. According to the registers of that public charity, which are most carefully kept by Dr. Munk and Mr. Marson, nineteen policemen were admitted during 1855, of whom four died. Two of the above fatal cases had never been vaccinated: whilst the remaining seventeen were reported to have had cow-pox, chiefly in infancy. Most of these presented cicatrices more or less perfect; but none, so far as the able medical officers of the institution could learn, had undergone re-vaccination. In all likelihood, had it been possible to ascertain the whole truth, perhaps few would have been considered properly protected, when they first entered the corps. Similar reasoning applies with equal force to those regiments of militia and ships' crews, where variola is reported to have recently broken out amongst the recruits. Instead of idly talking so much about compulsory vaccination, public authorities ought at once to interfere, and prevent such direful consequences in future by employing only protected persons.

To illustrate the perils that often follow smallpox, when affecting an individual, the subjoined instructive example may be quoted from the 'Progrès d'Ypres' newspaper, which very lately supervened in Flanders. In a cabaret called "La Bascule," near one of the gates of Menin, four persons were playing cards at a table in the public room, into which a child—then very ill with smallpox and delirious—rushed from an upper apartment it had occupied. Although this patient remained only a very short time near the guests, all four were soon afterwards attacked by variola of the most virulent kind, whereby the whole party died successively! Instances like these prove the value of cow-pox; and to demonstrate the different aspect this question now exhibits, contrasted with even not very ancient times, an observer need only look around in every large assemblage of men and women, to see how rarely any individual really bears marks of smallpox; or to hear how very seldom an acquaintance has fallen a sacrifice to the

above, formerly so often fatal, disease. Regarding that point, the following truly graphic and most apposite account, copied from Macaulay's 'History of England,' when relating the death of Queen Mary, which was caused by smallpox, in 1694, deserves being here quoted as an apt illustration. The great historian justly says—"That disease, over which science has since achieved a succession of glorious and beneficent victories, was then the most terrible of all the ministers of death. The havoc of the plague had been far more rapid; but the plague had visited our shores only once or twice within living memory, and the smallpox was always present, filling the churchyards with corpses, tormenting with constant fears all whom it had not yet stricken, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to the lover." All enemies of vaccination should study that picture: next ponder impartially over the spectacle they may now almost everywhere behold: mark the great difference, and then acknowledge their erroneous opinions, in reference to the prophylactic effects of cow-pox.

II. Analogous to the country generally, London exhibited a diminished rate of mortality during 1855, compared with the previous twelve months: although nearly the same in amount to that of 1853, notwithstanding the recently augmented metropolitan population. Last year, 61,506 persons died throughout London; whereas, during 1854, the total deaths were 73,697, thus giving a decrease of 12,545, or one sixth of the whole. Such being the aggregate mortality of last year, it hence follows, that in the metropolis, with an estimated population of two millions and a half, the mortality ranged at the rate of 24 deaths to every 1000 persons living: or one in 41 inhabitants. This result seems, on the whole, satisfactory, considering the proportion, in some former years, occasionally rose beyond that amount; nay, even reached 30 deaths in every 1000 residents. Different metropolitan districts, however, enjoyed various degrees of salubrity. Thus, the mortuary rate ranged, in 1855, from 23 in 1000 throughout the western and northern divisions, to 25 in 1000 in the eastern districts. Again, the most unhealthy portion of the whole year was towards the end of January; whilst the periods when fewer deaths, than those reported at any other, occurred in the third week of July and the second week of October. It should, however, be remembered that, cholera prevailed like a pestilence during the autumn of 1854; whereas last year, the same epidemic proved comparatively rare, and was very seldom fatal. But on this point, further remarks will be made subsequently.

Various diseases exhibited an augmented mortality during the past year, compared with the number of deaths by similar maladies in 1854: notwithstanding the general salubrity proved so satisfactory, as already mentioned. Amongst these complaints may be enumerated smallpox, which caused death in 1024 persons, instead of 676 during the previous year. Croup was also fatal in 535 cases, in place of 488; mortification 216 to 189; phthisis 7545 to 7107; bronchitis 5512 to 4549; disease of heart 2188 to 2062; asthma 728 to 661; gas-

tritis 102 to 82; ascites 172 to 147; and lastly, want of breast-milk was reported to have prematurely cut short the mortal existence of 358 human beings just entering into life: the number of deaths in infants, by the same cause, being 325 during the previous year. Such lamentable results—chiefly owing to the unnatural custom of employing hireling nurses by the higher classes of society—cannot be too strongly condemned, seeing its lethal effects are becoming, by every annual report, more appalling. The total fatal cases through privation of that best of food for babes—*their own mother's milk*—being now double in amount, compared with those recorded only five years previously.

Deaths by violence have also increased, when viewed in the aggregate. Some of the causes enumerated in this category have certainly proved less lethal, although others were oftener followed by loss of life, than in the year preceding. Thus, notwithstanding 1803 human creatures were killed by accidental causes, during 1855, throughout the metropolis, against 1767 in the previous twelve months, several serious casualties were less numerous. For instance, 100 persons died from wounds, against 108 the former year; 324 by drowning instead of 344; and 68 by other kinds of violence not specified instead of 83. Notwithstanding the results just mentioned, a very common cause of violent death proved oftener fatal last year, than the preceding, namely, burns and scalds: 341 persons having lately perished thereby, against 274 during the previous twelve months.

The precarious tenor of human life amongst the labouring population of London is well illustrated by such facts; many of whom being engaged in dangerous occupations to gain their livelihood, such deadly consequences become less remarkable and may be explained. That actually one person in every 34, of all whose mortal career was cut short, during the past year, should have died through violence, constitutes a most important fact, and ought to make some impression upon parties having the power to correct several causes by which these deaths were produced. Legislation cannot remedy every evil; nevertheless, much might be accomplished by greater care and attention on the part of those pursuing hazardous employments. Hence, such subjects merit future legislative consideration.

Contra-distinguished to previous statements, showing an augmented mortality by several diseases, others exhibited a decrease, of which the most marked seemed cholera. By this epidemic malady it appears 146 persons died, throughout the entire metropolis, during last year, against 10,708 the preceding. In fact, this disease was rarely observed, being only partially prevalent, in the third quarter of the year, when 106 such deaths were reported. Upon which point it may be interesting to state that, in one locality, namely, the neighbourhood of Golden Square, St. James's, Westminster, where cholera severely devastated the population almost like a pestilence during the autumn of 1854, this district last year became comparatively healthy. Diarrhœa likewise proved less fatal, the deaths in 1855 being 2061, instead of 3235 during the previous year; by measles 864 died, in place of 1399; by scarlatina 2602, against 3439; by typhus 2332, against 2669; by

dropsy 829, against 893 ; by paralysis 1180, against 1276 ; by convulsions 1937, against 2144 ; by enteritis 297, against 324 ; by diabetes, 38 against 62 ; and lastly, carbuncle, whereby 53 deaths were reported, instead of 91, as in the previous year.

Similar to what has been often previously remarked, even amongst so large a population as that congregated together in the metropolis, various diseases were characterised by a remarkable uniformity of mortuary results. For example, hooping-cough was fatal in 2415 cases, against 2471 the previous year ; rheumatism and rheumatic fever 309 to 322 ; cancer 1055 to 1021 ; hydrocephalus 1531 to 1560 ; apoplexy 1382 to 1323 ; pneumonia 3992 to 3976 ; abscess 126 to 123 ; jaundice 181 to 182 ; nephria 200 to 195 ; stone 34 to 33 ; cystitis 37 to 37 ; disease of uterus 149 to 150 ; and finally, by affections of joints 181 fatal instances were reported, in place of 179 in the former parallel twelve months.

Reviewing the mortality of the entire year, nothing remarkable, in reference to any particular disease, seems to have occurred. It is, however, interesting to state that typhus fever, although less frequent than the two previous years, proved more prevalent in some districts of London than in others ; the fewest deaths by that malady having been recorded in the central and northern divisions, the greatest number in the south and east. Thus, in central districts the mortality by typhus ranged as one to every 1264 residents ; whereas, in eastern, the proportion was so high as one death by typhus fever in every 840 persons then living. Much the same remark may be made respecting smallpox : that disease having proved most fatal in the eastern and southern districts of London, but least in the western. Somewhat analogous observations apply to measles and scarlatina, the former of which was more common throughout the east, but the latter malady in south portions of the metropolis. In short, speaking generally, with reference to epidemics and zymotic diseases, all low level districts situated south of the river Thames usually prove more insalubrious, than dwellings occupying the higher positions lying north and west of that boundary.

The total deaths which were reported from the various public institutions of London next constitute a curious feature in its aggregate mortality ; 11,310 residents, or 18.38 per cent., having died in these establishments, that is, nearly one fifth of the entire number. The largest proportion, or 6552, being in workhouses, while 2956 persons died in general hospitals during 1855, almost two thirds of whom were male patients. In workhouses the reverse prevailed : more females having ended their days within these eleemosynary institutions, than in general hospitals. On the other hand, the very few deaths recorded in prisons becomes an interesting illustration of the salubrity of such establishments. Only 71 prisoners died therein during the entire year, 14 being females. Considering the fact, that usually about 6500 inmates are confined in London gaols, whilst upwards of 43,000 individuals annually pass through those receptacles—in 1854 the actual numbers were 43,834—such a small mortality like the above indicates an unusual salubrity of London prisons, which speaks favorably of their management and sanitary disciplinary arrangements. In truth,

it may be now confidently asserted—confine persons of depraved habits, defective moral principles, irregular conduct, or those who possess no control over themselves, especially when addicted to crime. If then in bad physical health they will often be restored thereby to much better condition, both mentally and bodily, than that previously manifested.

During the past year, an important addition has been made by the Registrar-General to the mortuary report of London : viz., the occupations of male persons, aged 20 years and upwards, whose deaths were recorded in the metropolis. This constitutes a very interesting feature, and is highly suggestive of much useful meditation : particularly, as it indicates the salubrity or unhealthiness of numerous employments, in which large bodies of men are usually employed. In order to convey some idea of the different questions thus mooted, the following table indicating the comparative rate of mortality, in several occupations, has now been compiled by way of specimen. Being calculated upon the number of individuals living in London, at the census of 1851, returned as belonging to the various trades and occupations then enumerated, but here divided by the actual deaths of each category during 1855 ; of course, the ratio thus obtained must only be considered as an approximation. Remembering always that, no statistical deduction can become valuable unless based upon a large array of facts, whilst inferences derived from very limited numbers are generally fallacious, and hence may lead to error, only those occupations in which many persons were habitually engaged have been selected, in order thereby to illustrate more conclusively the instructive questions now proposed for investigation.

Comparative rate of Mortality in different Occupations.

Architects and Artists ... one in	64	Coachmakers	one in 39
Bakers	48	Coachmen and Postboys .	53
Boat- and Barge-men.....	40	Coalheavers	29 $\frac{1}{2}$
Bookbinders	41	Coopers	42 $\frac{2}{3}$
Booksellers and Publishers	54	Cowkeepers and Milk-sellers.....	41
Brewers' Servants	29 $\frac{1}{2}$	Curriers and Tanners.....	67
Bricklayers and Labourers	34	Drapers	89 $\frac{1}{2}$
Brush- and Broom-makers	43 $\frac{3}{4}$	Druggists	65
Builders and Labourers...	37	Dyers.....	49
Butchers.....	47	Engine- and Machinemakers	57 $\frac{3}{4}$
Cabinetmakers	51 $\frac{1}{2}$	Engravers and Copper-plate-printers.....	53
Carmen	32	Farriers and Veterinary Surgeons	34
Carpenters	46	Fishmongers	44
Chairmakers	54	Gardeners	41 $\frac{1}{2}$
Cheesemongers	47	Gold- and Silver-smiths...	45 $\frac{2}{3}$
Chemical-makers	141	Greengrocers	38 $\frac{2}{3}$
Civil Service	49 $\frac{3}{4}$		
Clergymen and Religious Teachers.....	63		
Clerks	36		

Grocers	one in 79	Pensioners, Greenwich ...	one in 11 $\frac{1}{2}$
Hairdressers	51	Policemen	82
Hatters	46	Plasterers	35 $\frac{1}{2}$
Horsekeepers, Grooms, &c.	64	Printers	53
Hawkers and Pedlars ...	26 $\frac{1}{2}$	Publicans	27
Inland Revenue Servants.	30	Saddlers.....	37
Inn- and Eatinghouse- keepers	39	Sawyers	33
Ironmongers and Manu- facturers.....	52 $\frac{1}{2}$	Seamen	23
Labourers, General	42	Servants, Domestic	66
Legal Profession	55 $\frac{1}{2}$	Servants, Inn and Hotel .	30
Literary Men.....	58	Shipbuilders and Labourers	27
Masons	32 $\frac{1}{2}$	Shoemakers	46 $\frac{1}{2}$
Medical Profession	77	Shopkeepers	35
Merchants and Bankers...	58	Silkmanufacturers	48 $\frac{1}{2}$
Military Men	28 $\frac{1}{3}$	Stationers	40
Musicians	34 $\frac{1}{2}$	Tailors	44 $\frac{1}{3}$
Musical-instrument-makers ..	59	Tallowchandlers.....	53 $\frac{2}{3}$
Omnibus- and Cab-men...	30	Tobacco- and Snuff-sellers	48 $\frac{2}{3}$
Painters and Plumbers ...	41	Travellers, Commercial...	43 $\frac{2}{3}$
Pensioners, Chelsea	13 $\frac{1}{2}$	Turners	47
		Watchmakers	49
		Wheelwrights	44 $\frac{3}{4}$

Considerable discrepancy hence becomes apparent, with reference to the varied employments in which particular persons are constantly occupied. For example, by the table, chemical-makers would seem to be a most healthy class of men, since the ratio of deaths was only one in every 141 persons so employed. Drapers come next, of whom the proportion was one in 89 $\frac{1}{2}$; whilst policemen, being one death in every 82, occupy the third position in this mortuary scale. On the other hand, Greenwich pensioners, as might well be anticipated, exhibit a higher rate of mortality than any other class; the residents at Chelsea being, however, nearly in a parallel position. The former range about one in 12; the latter, less than one death in 14 persons living. Such results must naturally be expected; considering the often advanced ages, previous lives, and former occupations of these parties, whether soldiers or seamen. Similar remarks also apply to military or naval persons, even in the prime of life; seeing the proportion of deaths amongst the first-named class was one in nearly 28, and one in 23 of the latter category. Respecting handicrafts, it is interesting to observe that, musical-instrument-makers appear to have followed the most salubrious occupation, the ratio reported being one death in every 59 persons so designated; whereas, amongst painters and plumbers, it was one in 41, and of saddlers, 37 workmen of that category. With reference to professions, medical men occupy the one in highest position, the ratio of one death in every 77 being exhibited by that class; clergymen follow next, of whom the rate was one in 63; whilst lawyers seem placed in a much lower position, viz., one death in nearly 55 members of the legal fraternity actually alive; hence showing that, for every two medical practitioners who died last year, three men of law also succumbed to disease, if calculated according to their respective numbers residing in the metropolis.

Numerous other interesting comparisons may be made by more minutely examining the document now under review, and which will amply repay the reader's perusal. Thus, the marked diversity of mortality affecting drapers and dyers, the latter being nearly double the former. Grocers and green-grocers also occupy very dissimilar positions to each other. Cabmen likewise died in much greater proportion than coachmen and postboys. Publicans became the victims of disease in far greater numbers, or as two to one, than tallow-chandlers. Persons employed about horses appeared much more healthy than carmen, although in some respects they bear a resemblance, with reference to their occupations; nevertheless, the mortality was exactly double amongst the latter, to that furnished by the former class. Again, brewers' servants died in twice the proportion to that of carriers and tanners. Coal-heavers occupied nearly a similar relative position to chair-makers; and lastly, ship-builders, bricklayers, and house-builders, with their various labourers, also give very different mortuary results if compared with artists and architects, or even with domestic servants; seeing, nearly two deaths were reported among the first, to one in the last category; the contrast being, however, very great as to hotel and innkeepers' servants, who die in a larger ratio than persons in domestic servitude.

Another characteristic feature of this table must not be overlooked, namely, the singular uniformity which several employments therein specified furnish, as to their comparative rates of mortality. Thus, bakers and butchers, however different they may be in position, mode of existence, diet, and other physical influences—which often powerfully affect health—exhibit nearly parallel results, in reference to the calculated number of deaths. Amongst the former class, one person died to every 48, and in the latter, one to 47 then living. This analogy even appears still more interesting, when it is recollected that, bakers consume much vegetable food, are confined in a hot, close, unhealthy atmosphere for many hours consecutively, and also labour chiefly during night-time; whereas, butchers seem almost constantly occupied in the open air, often eat animal food, and in order adequately to follow their particular calling, they require to be endowed with strong physical frames. Notwithstanding so great dissimilarity in many points, these two occupations appear nearly on a par with respect to mortuary results. Cheese-mongers occupy the same position, whilst fish-mongers, who live much in the open air like butchers, carry on business in shops which also possess free ventilation, from being without frontage towards the street, but take more fish than animal food, compared with the former—the ratio being one in 44—therefore follow even less salubrious occupations. Again, engravers on metals, printers, and persons occupied in publishing or selling books, show nearly the same results, in regard to the influence such callings produce upon the individual's health: although the mortality amongst bookbinders was considerably greater, compared with those engaged in printing and bookselling. Literary men, bankers, and merchants, likewise exhibit parallel results: whilst gardeners and persons tending cows, and milk-sellers also come within this category: the mortality amongst the first-named occupations being one in 58;

but gardeners, cow-keepers, and milk-sellers, give a ratio of one death to about every 41 persons then living, and so employed. Other comparisons might be made; but it seems now superfluous to extend the list, as students may consult the table, and judge for themselves.

Before concluding these remarks on the sanitary condition of London during 1855, one or two general observations respecting the weather and atmospheric phenomena will not be inappropriate, seeing such influences often materially affect public health. Compared with ordinary seasons, last year proved drier than usual, excepting 1854, the amount of rain being 21 inches and a fraction; whereas in 1853, the quantity reached 29·6 inches, and in 1852 it rose so high as 34·4 inches, or nearly two-fifths beyond the gauge of the period now under review, which hence was the reverse of humid. The mean temperature of the air ranged less than that recorded in any previous year, ever since the Registrar-General's Reports were first published, the highest daily average being greatest during spring, and least in autumnal months, but especially towards the latter portion of the year: it having then seldom varied beyond eleven degrees in one day during the last ten weeks, and generally about nine; which constitutes a very slight change in the variable climate of England. Such a limited diurnal alternation of the thermometer, as that now mentioned, contributed greatly to the good physical condition of the people, which characterised that portion of the year. Indeed, physicians may confidently expect, whenever much difference of temperature is observed betwixt day and night time, particularly should dryness of the air alternate with humidity, if diminished electrical tension prevails, or the barometric pressure ranges low with a still, hazy atmosphere, then sickness more frequently supervenes, and mortality appears augmented in consequence. When opposite atmospheric phenomena obtain, assuredly public health will be promoted, and the season prove, *pro tanto*, salubrious.

III. Scotland having established, after much discussion and some delay, through adversely interested parties, an official registration of births, marriages and deaths, resembling the plan now pursued in England, the adopted measure promises great and beneficial results, supplies a desideratum long felt, and removes the opprobrium that, North Britain was almost the only country in Europe, where such a system was unknown. Nevertheless, although in various respects excellent, respecting one special point, it is defective and highly objectionable, viz.—that any medical man who shall have been in attendance during the last illness until the patient's decease, must transmit, within fourteen days after death, under a penalty of forty shillings, a certificate of such event to the district registrar. This proceeding seems most arbitrary, and has justly given great umbrage to professional men. If legislators consider penalties advisable, in cases of that description, they should place the responsibilities on the deceased's relatives—certainly not on the attendant, who perhaps may only casually have seen the patient in question. What renders this compulsory clause more unjustifiable is, that no remuneration is provided for the party thus forced to supply important information. When

recently visiting Scotland, the writer met various medical friends, who complained seriously of this grievance, and stated that, some had even been called upon, under penalty, to certify respecting the death of individuals, to whom they had only given casual advice, and of whose disease, and its subsequent fatal termination, they retained scarcely any distinct recollection. This summary mode appears, indeed, over-legislation, and should be altered forthwith. No similar tyrannical treatment towards medical practitioners prevails in England; whilst there the existing system acts satisfactorily, notwithstanding the certifiers are also not remunerated. Therefore, any penalty is wholly superfluous, besides being unjust; and instead of proving useful when dealing with gentlemen, it will more likely even produce an opposite effect; and hence may tend to prevent accuracy in returns thus obtained gratuitously.

The registration of deaths, now under review, having only come into operation on the 1st of January, 1855, no comparison can consequently be instituted with previous mortuary details; so that any remark which is subsequently made, upon the sanitary condition of North Britain, must be wholly confined to the past year. During the above period, the total deaths registered amounted to 62,154; being in the proportion of about one death to every 48 persons living. This indicates a rather favorable state of public health; although it must be recollected, at the same time, as the system of registration was new, and the people not yet fully accustomed to its working, every fatal termination of disease may not have been communicated. Nevertheless, last year's rate of mortality seems to have ranged lower than in England. As might be expected, however, the proportion of deaths, taken in the aggregate, is more or less exceeded by all those counties where a large number of the population reside in towns. Thus, in Lanarkshire—the Lancashire of Scotland—the ratio of mortality was so high as nearly one in 37; whereas, in Orkney, it was one in 67; in Peeblesshire, also, one in 67; but in the county of Clackmannan the proportion of deaths was reported as one in 68 persons then living; being almost half that of Lanarkshire.

On the other hand, the difference as to mortuary details among town inhabitants, compared with residents in rural districts, was strikingly manifested during the past year.

Throughout the former localities, which had a population of nearly one and a half millions, and contained every large town, the percentage of mortality reached one in 38; whereas, in country parishes, with an equal population, the amount of deaths was only one in 58 residents; thus showing a greater loss of human life, from influences connected with urban residences, than elsewhere. In other words, ordinary dwellers in towns, even during the recent healthy ages, died at the rate of 261 out of every 10,000: while the rural population only furnished 169 deaths among the same number of persons. According to these authentic data, Scotland may be stated to have manifested considerable salubrity, and remained free from any general epidemic; that satisfactory condition being, doubtless, in part, owing to atmospheric influences and weather, which often affect physical health. The proportion of deaths, however, ranged higher during the

first part of the year, or cold months, than in the mild seasons of summer and early autumn ; but they again augmented towards winter ; whereby, the most healthy period was August and September ; the least salubrious, March and February. The total deaths, amounting to 7227 in February, contradistinguished to 4047 in September ; thus showing 3180 less during the latter month, or actually 44 per cent. diminution.

Viewed in reference to particular seasons, the first three months of 1855 were characterised by great mortality—reported as mainly owing to the cold, and other atmospheric phenomena. During this quarter, 19,685 deaths were registered ; which gives the large proportion of one in 38 persons living, the majority being females. Although the average mortality over Scotland was thus high, that of some districts, viz., the counties of Berwick, Peebles, Selkirk, and Clackmannan, ranged remarkably low : the rate being only one death in every 53 residents. On the other hand, mortuary reports attained their highest figure in Lanark and Renfrewshire. The ratio giving one death to every 28 persons living, throughout the former, and one in 29 residents of the latter county. Such increased mortality having been produced by an excessive number of deaths, among the over-crowded populations resident in Glasgow, Paisley, and Greenock. One remarkable feature deserves also special notice ; namely, the mild and sheltered island of Bute, which, although hitherto generally considered salubrious, proved quite the reverse. Here, the ratio gave one death for every 34 persons living, and thereby exceeding the average of all Scotland, taken in the aggregate.

During the second quarter of last year, a great improvement became evident in the general health, 15,312 deaths being then reported amongst the entire population. Consequently, instead of the ratio of mortality ranging one death in every 37 persons, the proportion fell to about one in every 49 residents. This result, however, varied considerably in some divisions and counties. Thus, in the north-western districts, whose population is almost entirely rural, the mortality was only one death in every 61 persons living : whereas, in the south-western parts of Scotland, where most of the large manufacturing towns are situated, the proportion of diseases terminating fatally, reached so high as one case for every 36 residents. This difference may be made more intelligible by stating that, the districts embracing all the most populous towns, and which comprise half the entire population of North Britain yielded 9173 deaths, during the quarter now under consideration ; while, the remaining rural districts, embracing an equal population, furnished only 6139 deaths, viz., 3034, or one third decrease.

If an improvement in the public health was great during the second quarter, the amelioration proved not less marked, throughout the three months ending the 30th of September. In that period, the total deaths only amounted to 12,988, being 2324 fewer than those recorded during the previous quarter : and actually 6697 below the numbers reported for January, February, and March. These figures consequently give an estimated proportion of one death to every 57 persons then living. This ratio, however, varied in different localities :

the mortality being, scarcely without exception, highest in those counties where the amount of town inhabitants is greatest; but lowest in districts having an almost entirely rural population. Nearly two thirds of the total deaths, viz.. 8,093, being reported from the former, and about a third, 4,895, from the latter, or rural portion.

Although rather under the first two quarters of last year, the aggregate deaths during the fourth exceeded, but not materially, the number registered in the three months immediately preceding. During the quarter, 1416 deaths were reported throughout Scotland. That gives the low proportion of one case of disease having a fatal termination, in every 53 persons then living. This result, however, varied considerably in different counties: having been noted in Nairn and Sutherland as one death in every 108 persons, whilst throughout the whole northern districts, the ratio ranged at one in every 82 residents. On the other hand, in the south-western, or manufacturing counties, the proportion reached to one death in 44 inhabitants. But restricting such estimates to Lanarkshire alone, the mortality rose so high as one death in every 23 persons residing in that county. Respecting the different rates noticed in town and rural populations, a discrepancy was strikingly manifested during this quarter. Thus, in the divisions which include all the populous towns, 8934 deaths were recorded; while the remaining, or rural districts, having the same amount of inhabitants—or half the entire population of Scotland—only furnished 5228 deaths; thereby showing that a loss of 3706 lives probably originated from influences mainly connected with residence in towns. At all events, the marked distinction now mentioned amply merits special consideration.

Notwithstanding the generally healthy condition of the public throughout North Britain, particularly during the latter half of last year, virulent epidemic attacks of smallpox and scarlet fever prevailed in different localities. Still, in every place where variola broke out, it deserves to be mentioned that, nearly all the fatal cases from this malady occurred among those who had not been vaccinated. Indeed, by many persons, that invaluable safeguard appeared wofully neglected—hence throwing much discredit upon public authorities, as also the people generally. This conduct doubtless originated either in gross ignorance, wilful neglect, or obstinate prejudice against the protective influence of vaccination; and even that occurred in a country much famed for its often intellectually cultivated population. These remarks respecting variola apply, in a special manner, to such places as Dundee and Greenock, where the above loathsome disease has, for some years past, caused nearly double the average mortality thereby recorded in English towns: which hence makes this fatality truly excessive.

Various questions of exceeding interest might be mooted in reference to the sanitary condition of residents, in that part of the British Empire now under review. But only one point will be in conclusion noticed, namely,—the very large proportion of young children who were cut off, either by disease or otherwise, below five years of age, and often much younger. This peculiarly striking feature portrayed by mortuary details, was especially observed in

town populations. The amount being generally greatest in Glasgow, Dundee, and Greenock. In these localities, the death-rate of such children often exceeded 50 per cent. of the total mortality. Nay, during the month of last September, it was 61 per cent.; and in August immediately preceding, the returns show that 64 deaths in every 100 actually took place amongst young persons under five years of age. Such lamentable results are much to be deplored, and show some social evils must prevail, causing an infantile mortality so high as that recently observed in urban districts. Farther, the number of still-born infants ascertained to have come into the world, but who died at, or previous to their birth, seems likewise to have been considerable. For instance, in Dundee, during most years, the ratio of such casualties was seven and nearly one fifth per cent. : while in Glasgow, although the proportion was less, it still ranged upwards of seven still-born cases in every one hundred births.

Compared with other large towns, or even capitals, both in England and on the continent, the amount of still-born infants does not often attain so high a figure, as that recorded in several districts of Scotland. Thus, in London, the ratio is about three and three quarters per cent. of the total deaths registered. At Stockholm, the proportion is less than four per hundred. In Berlin it fell under five per cent. In various large towns of France the number of still-born infants is below either Glasgow or Dundee, besides various other Scottish districts. For example, in Bordeaux the rate ranges under $2\frac{1}{2}$ per cent.; in Rouen it is less than $5\frac{3}{4}$; in Lyons $6\frac{3}{4}$; in Paris $7\frac{3}{4}$, or nearly the same amount as in Dundee; but at Marseilles the rate rose higher, being $7\frac{3}{4}$ in that populous commercial community. These varied statements are both curious and instructive, whilst they illustrate the very grave question now brought under discussion. Indeed, with reference to that portion of the British dominions, which has been but briefly noticed in the present report, all vital statistics of the above description, based upon official documents, seem so remarkable, and assume such an important feature that, they demand serious attention by the legislature and philanthropists, with a view to mitigate or prevent, if possible, similar calamitous consequences in future. Few investigations could be of greater importance, or fraught with more benefits to the poor and labouring classes of the community.

The data upon which useful deductions could be fairly inferred being yet only of a rather limited character, it appears somewhat premature to compare, with any precision, the salubrity of particular localities; especially in reference to the special diseases: which have proved most fatal in various districts. Nevertheless, one or two general remarks may very legitimately be made respecting three of the most populous towns of North Britain, in order to show how far the mortality occasioned by several diseases — not epidemics — differed during the past season. Take, for example, Aberdeen, situated on the east part of Scotland, which has about half the population of Edinburgh, likewise lying on the eastern coast, and compare these cities with Glasgow, located on the western portion of the island, but containing double the number of inhabitants to Edinburgh. Some very interesting results may then be obtained; seeing diseases of the

respiratory organs, such as pneumonia, bronchitis, and croup, proved much more fatal in Glasgow, than either in Edinburgh or at Aberdeen. Thus pneumonia caused twice as many deaths in Glasgow, as in Edinburgh, and near four times as many as in Aberdeen. Bronchitis exhibited analogous results also amongst the residents of each of these towns; whilst croup was five times more deadly in Glasgow, than in Aberdeen.

Again, enteritis prevailed with greater severity at Glasgow than in either Edinburgh or Aberdeen. Indeed, that disease proved three times more fatal in the first-named city, compared with the latter: whilst apoplexy oftener caused death in the capital, than elsewhere. On the other hand, phthisis seemed nearly uniformly destructive throughout all populous towns: whereas, typhus became much oftener a fatal disease in Aberdeen and Glasgow than in Edinburgh. This appeared to have been likewise the case with dropsy; that malady having occasioned upwards of twice the number of deaths, at Aberdeen, in reference to their aggregate populations, if compared with the Scottish metropolis. Reviewing, the whole subject, it may then be very confidently asserted that Glasgow, comparatively speaking, is much more insalubrious than any other city, not only in Scotland, but also in Great Britain. This may be confidently asserted, but, at the same time, it is only justice to state (and it gives us much pleasure to be able to make the statement) that this sad stigma will soon be removed by the sanitary improvements which are now being carried out on all hands, by the energetic and intelligent municipality of this city.

II.

REPORT ON THE PROGRESS OF SURGERY.

On Aneurismal Sacs. By W. COLLES, Surgeon to Steevens' Hospital, Dublin. ('Dublin Quarterly Journal of Medicine,' Feb. 1856.)

IN this paper Mr. Colles advances a doctrine originally propounded by his late father in 1810—that *the striated substance contained in the sac is an effusion of lymph poured out by the sac itself*, and not (as is usually held) a deposit, in some unaccountable way, from the blood coagulated within the sac. He says—

“If we examine blood extravasated within the body, we find it coagulates ; that it becomes enveloped by a layer of lymph effused by the surrounding parts ; that this sac encloses and finally absorbs the clot, or, if it be too large to be absorbed, or if any cause excite inflammation, this sac pours out pus, and the cure is effected by suppuration, as in abscess : but we never find the coagulum as if endowed with any action of its own, to be separated into layers.

“We know that if we make an artificial cavity without exposure to the air, as in subcutaneous sections, lymph is effused, which forms a sac if there be any foreign body or blood extravasated ; if not, it is poured into this space ; this lymph becomes organized, fills up the cavity, and approximates the divided parts, and is either itself absorbed or goes to form new tissues ; hence we would expect the sac of an aneurism to be subject to the same laws, and to pour out lymph with the same object. If an increased action be excited in many of the cavities of the body, we find lymph will be effused, and this lymph will often assume the appearance of layers ; it is observed in the peritoneum, pleura, pericardium, trachea, bladder, but I think most frequently in the subcutaneous bursæ, especially in that of the patella. Why this lymph at times is effused in layers, and at others not, is not very satisfactorily understood, though the fact has been frequently observed, and attributed to renewed attacks of inflammation. In aneurismal sacs the constantly dilating force of the blood may renew the irritation, and cause a separation of the outer layers, whose tendency is to contract, from the sac which is forced to enlarge, and thus give rise to a fresh deposit.”

Now this view enables us to account for certain peculiarities of aneurism, and it also involves certain important modifications in treatment.

If the laminæ of fibrin within the sac of an aneurism are deposited

from the blood we should expect to find the outer layers more degenerate than the inner layers, and quite independent of the sac. But the reverse is the case, for the outer layer is firm and of the yellow colour of lymph, it is better organized and its attachment to the sac is such that it cannot be separated without some difficulty and much pain, and, on the other hand, the inner layers are softer, more or less tinged by the colouring matter of the blood, and often detached and shreddy as if broken up and acted upon by the current of the blood. If the layers are deposited from the blood we should expect to find them in all aneurisms, but in reality they are seldom found when the lining membrane is perfect. (They are seldom found under these circumstances because it rarely happens that the lining membrane of the other parts takes on a tendency to pour out lymph, or to adhere to a coagulum if a coagulum forms in contact with it.) If the layers are deposited from the blood we should expect that the great majority of cases of aneurism would eventually tend to a natural cure. On the other hand, the history of aneurism is more intelligible on the supposition that the layers within the sac are formed by secretion from the sac, and this is pointed out by Mr. Colles at considerable length, and with much clearness and cogency of argument.

This view, moreover, is shown to lead to a more accurate plan of treatment.

"We should have," writes Mr. Colles, "two objects in view,—to oppose, to lessen, or entirely stop the current of blood which distends the sac at each pulsation, and by its constant action forces it to work its way through the most firm resistance; at the same time to support the sac in its efforts to resist this distending force by throwing out layer after layer of organized lymph, to strengthen its walls, and fill up its cavity. Thus we find many cases recorded where attention to only one of these objects has resulted in a cure, but the combination of both is, in general, requisite. The first is the principal one, and that which has chiefly occupied the attention of the surgeon; and I should consider nothing would more effectually promote this object than a closer observance of the practice of the older surgeons: keeping the patient quiet, on low diet, and subjecting him to small bleedings at short intervals; this may be also assisted by the exhibition of such remedies as control the formation of blood, or the force or frequency of the heart's action. Of the local remedies to effect the same object, recourse is frequently had to the ligature of the vessel, a practice latterly supplanted by the temporary compression on the artery, which retards or obstructs the flow of blood into the sac or breaks the force with which it acted in distending the sac; so that now the sac goes on contracting, and filling up the cavity with layers of lymph, and is not disturbed in this operation.

"The latter object, to support the sac, seems to have escaped the consideration of the surgeon, because the idea formerly was that, unless he could make pressure enough to obliterate the sac, or so as to allow the blood in it to coagulate, pressure was useless. But the records of surgery give us innumerable examples of cases in which this moderate pressure was alone sufficient, and often materially assisted in promoting the cure of the disease, especially when combined with frequent small bleedings, though the authors did not endeavour to explain the manner

in which this pressure acted. This pressure should be moderate, its only object being to give support; if more, it would excite inflammation or absorption of the sac, and it would be more effectual when it could be applied so as to control the lateral dilating force of the circulation, as well as the perpendicular pulsation, that is, in cases where the sac is superficial, and the fingers can be passed on all sides of it.

"There is another inference to be drawn from the preceding observations, that is, we should not consider the patient perfectly cured, nor allow him to return to his previous mode of life, or his former exertions—not only till all pulsation within the tumour shall have ceased, but until we consider that there has been time for all blood to have been absorbed from the cavity, and its place supplied by these protruded layers of lymph, which are then in their turn to be removed; and if, unfortunately, it should so happen that the pulsation does reappear, we are not to despair of effecting a cure, but again have recourse to the pressure, or whatever other means we had been before employing, and which had made such progress in the treatment.

"We perceive that the ligature of the artery below the sac can offer very small chance of success, as it does not moderate, but rather increases the force of the circulation in distending the sac. We see also, that a coagulum in the sac, if large, is a great impediment to the cure adopted by nature, and may even give rise to suppuration within the sac, or may cause only temporary cessation of the pulsation, the disease returning if by any means any fluid blood passes from the artery into the sac. And, therefore, these artificial and chemical means proposed and tried, of causing this coagulation, are, at best, uncertain and too often dangerous, by exciting an inflammation generally of an unhealthy character, and so destroying the patient; or if he escapes this danger, he must be subject to all the inconvenience of a tedious treatment; for his cure cannot be perfect,—he will be liable to a relapse any moment, before the complete absorption of the coagulum, and the deposition of firm, solid, adhering lymph in its place.

"From the foregoing considerations we should also be led to infer, that we would have a more rapid cure in those cases in which the sac is soft, not containing many of these layers of lymph; because in old sacs the layers are more firm and unyielding, being acted on by pressure of the blood, and this pressure being removed, the subsequent filling up will be more slow than in a case where there are few laminæ; for, the current being interrupted, the sac itself will close in and contract to a considerable extent, and the subsequent effusion of lymph, being formed free from the action of the pressure of the circulation, will be more considerable, in thick layers, and with a greater tendency in itself to contract.

Asphyxia, its rationale and remedy. By MARSHALL HALL, M.D., F.R.S.
(Lancet, March 1, and April 12, 1856.)

The following remarks are deserving of very serious attention, and we give them without any comment, for they are as plain and intelligible as they are important and useful.

"The term asphyxia, which ought to be exchanged for apnæa, desig-

nates that condition of the animal system which results from the suspension of respiration.

“Respiration involves two processes—the inhalation of oxygen, and the exhalation of carbonic acid.

“*The remedy* for the suspension of respiration is, on every principle of common sense, the restoration of respiration. This view might be considered, irrespective of physiological inquiry and proof, as self-evident; but that proof is amply supplied by physiology.

“Of the two functions suspended, it is certain, from physiological inquiry, that the retention of the carbonic acid is by far the more fatal, and that, in a word, asphyxia is the result of carbonic acid retained in the blood, which becomes, in its excess, a blood-poison.

“If this view be correct, it is evident that restored respiration is to the blood-poison in asphyxia what the stomach-pump is to poison in the stomach; and that it is *the special remedy, the sine quâ non, in asphyxia.*

“But this blood-poison is formed with a rapidity proportionate to the circulation, which is, in its turn, proportionate to the temperature. To elevate the temperature, or to accelerate the circulation, *without* having *first* secured the return of respiration, is therefore *not to save, but in reality to destroy life!*

“Now, let me draw my reader’s attention to the *Rules* for treating asphyxia, proposed and practised by the Royal Humane Society. They are as follow:

““1. Convey the body carefully, with the head and shoulders supported in a raised position, to the nearest house.

““2. Strip the body, and rub it dry; then wrap it in hot blankets, and then place it in a warm bed in a warm chamber free from smoke.

““3. Wipe and cleanse the mouth and nostrils.

““4. In order to restore the natural warmth of the body,—

Move a heated covered warming-pan over the back and spine.

Put bladders or bottles of hot water, or heated bricks, to the pit of the stomach, the arm-pits, between the thighs, and to the soles of the feet.

Foment the body with hot flannels.

Rub the body briskly with the hand; do not, however, suspend the use of the other means at the same time; but, if possible, immerse the body in a warm bath at blood heat, or 100 deg. of the thermometer, as this is preferable to the other means for restoring warmth.

““5. Volatile salts or hartshorn to be passed occasionally to and fro under the nostrils.

““6. No more persons to be admitted into the room than is absolutely necessary.”

“My first remark on these rules for treating asphyxia is, that ‘to convey the body to the nearest house,’ is doubly wrong. In the first place, *the loss of time* necessary for this purpose is—*loss of life!* on the contrary, not a moment should be lost; the patient should be treated instantly, on the spot, therefore. In the second place, except in very inclement weather, the exposure of the face and thorax to the breeze is an important auxiliary to the special treatment of asphyxia.

“But most of all, the various modes of restoring the temperature of

the patient, the warm-bath especially, are objectionable, or more than objectionable; they are at once inappropriate, unphysiological, and deleterious.

"If there be a fact well established in physiology, it is that an animal bears the suspension of respiration in proportion, not to the warmth, but, within physiological limits, to the lowness of the temperature, the lower limit being about 60° Fahr. A warm-bath of 100° Fahr. must be injurious.

"All other modes of inducing warmth are also injurious, if they divert the attention from *the one remedy* in asphyxia—artificial respiration,—or otherwise interfere with the measures to be adopted with the object of restoring this lost function.

"Such, then, are the views which the scientific physician *must* take in regard to the late rules for treating asphyxia promulgated by the Royal Humane Society.

"I now proceed to state the measures by which those rules must be replaced.

"I revert to a proposition already made: as asphyxia is the result of suspended respiration, the one remedy for the condition so induced is, self-evidently and experimentally, the restoration of respiration.

"But there is an impediment to artificial respiration never before pointed out. It is the obstruction of the glottis or the entrance into the windpipe, in the supine position, by the tongue falling backwards, and carrying with it the epiglottis—an event which can only be effectually remedied by adopting *the prone position*.

"In this position the tongue falls forward, drawing with it the epiglottis, and leaving the ingress into the windpipe *free*.

"But even when the *way* is patent, there remains the question, how is respiration to be effected? The syringe or the bellows may not be at hand, and if they were, the violence used by them is apt to *tear* the delicate tissue of the lungs. The mode proposed by Leroy, of compressing the thorax by means of a bandage, and allowing its expansion by the resilience of the costal cartilages, is proved by experiment to be futile, chiefly, no doubt, from its being attempted in the supine position, with the glottis obstructed.

"The one effectual mode of proceeding is this: let the patient be placed in the prone position, the head and neck being preserved in their proper place. The tongue will fall forward, and leave the entrance into the windpipe *free*. But this is not all, the thorax and abdomen will be *compressed* with a force equal to the weight of the body, and *expiration* will take place. Let the body be now *turned* gently on the side, (through rather more than the quarter of a circle,) and the pressure on the thorax and abdomen will be removed, and *inspiration*—effectual *inspiration*—will take place! The *expiration* and *inspiration* are augmented by timeously applying and removing alternately pressure on the spine and ribs.

"Nothing can be more beautiful than this life-giving—(if life *can* be given)—this breathing process.

"In one series of experiments, twenty cubic inches of air were *expelled* on placing a corpse in the prone position, and ten cubic inches more by making pressure on the thorax and ribs, the *same* quantities being *in-*

haled on removing that pressure, and on rotating the body on its side. But I must give the experiments in detail :

“ A subject was laid on the table, and pressure made on the thorax and ribs, so as to imitate the procedure of Leroy. There was no result ; a little gurgling was heard in the throat, but *no inspiration* followed. The tongue had fallen backwards, and closed the glottis or aperture into the windpipe ! All inspiration was prevented.

“ Another subject was placed in the *prone* position. The tongue having fallen *forwards*, and the glottis being free, there was the *expiration* of twenty cubic inches of air, a quantity increased by ten cubic inches more on making pressure along the posterior part of the thorax and on the ribs. On removing this pressure, and turning the body through a quarter of a circle or rather more, on the side, the whole of the thirty cubic inches of air were *inspired* !

“ These manœuvres being repeated, ample respiration was performed !

“ Nay, there may be a question whether such considerable acts of respiration may not be too much.

“ It is to be observed, however, that, in this mode of artificial respiration, *no force* is used ; the lung therefore is not injured ; and that, as the air in the trachea and bronchial tubes undergoes little or no change in quantity, the whole inspired air passes into the air-cells, where the function of respiration is alone performed.

“ It deserves to be noticed, that in the beginning of this experiment in the *prone* position, the head had been allowed to hang over the edge of the table : all respiration was frustrated ! *Such is the importance of position.*

Reserving the full exposition of this method of *postural respiration*, this theseopnoea, (from θεσις, position,) for another occasion, I will conclude by reducing these views into the simplest *Rules* for the treatment of asphyxia.

“ *New Rules for the Treatment of Asphyxia.*

“ I. Send with all speed for medical aid, for articles of clothing, blankets, &c.

“ II. Treat the patient on the spot, in the open air, exposing the face and chest freely to the breeze, except in too cold weather.

“ I. *To excite Respiration,*

“ III. Place the patient gently on the face, (to allow any fluids to flow from the mouth.)

“ IV. Then raise the patient into the sitting posture, and endeavour to *excite* respiration,

“ 1. By snuff, hartshorn, &c., applied to the nostrils ;

“ 2. By irritating the throat by a feather or the finger ;

“ By dashing hot and cold water *alternately* on the face and chest.

“ If there be no success, lose no time, but—

“ II. *To imitate Respiration,*

“ V. Replace the patient on his face, his arms under his head, that the tongue may fall *forward*, and leave the entrance into the windpipe free, and that any fluids may flow out of the mouth ; then

“1. Turn the body gradually but completely on the *side*, and *a little more*, and then again on the *face*, alternately (to induce *inspiration* and *expiration*);

“2. When replaced, apply pressure along the back and ribs, and then remove it (to induce further *expiration* and *inspiration*), and proceed as before;

“3. Let these measures be repeated gently, deliberately, but efficiently and perseveringly, *sixteen times* in the minute, *only*;

“III. *To induce Circulation and Warmth,*

“1. *Continuing* these measures, rub all the limbs and the trunk *upwards* with the warm hands, making *firm pressure* energetically;

“2. Replace the wet clothes by such other covering, &c., as can be procured.

“VI. *Omit the warm-bath until respiration be re-established.*

“To recapitulate, I observe that—

“1. If there be one fact more self-evident than another, it is that artificial respiration is the *sine qua non* in the treatment of asphyxia, apnoea, or suspended respiration.

“2. If there be one fact more established in physiology than another, it is that within just limits, a *low* temperature conduces to the protraction of life, in cases of suspended respiration, and that a more elevated temperature destroys life. This is the result of the admirable, the incomparable, work of Edwards.

“3. Now, the *only* mode of inducing efficient *respiration* artificially, at all times and under all circumstances, by the hands alone, is that of the postural manœuvres described in this paper.

“This measure *must* be adopted.

“4. The *next* measure is, I have stated, to restore the *circulation* and *warmth* by means of pressure firmly and simultaneously applied *in the course of the veins*, therefore *upwards*.

“5. And the measure *not to be adopted*, because it tends to extinguish life, is *the warm bath, without artificial respiration.*

“This measure *must* be relinquished.

“These conclusions are at once the conclusions of common sense and of physiological experiment. On these views human life may, nay, must, sometimes depend.”

On the Average Duration of Life in patients with Scirrhouus Cancer of the Breast. By JAMES PAGET, F.R.S., Assistant-Surgeon to St. Bartholomew's Hospital. (‘Lancet,’ Jan. 19, 1856.)

In a lecture delivered at the Royal College of Surgeons, about four years ago, Mr. Paget stated that the average duration of life in cancer of the breast, when the disease is left to itself, is thirteen months greater than in cases where the diseased breast is removed by operation. Mr. Paget, however, finds that this is an erroneous estimate.

“Records which I have made or collected of 139 cases of schirrous cancer of the breast, watched to their conclusion, or to their survivals beyond the average duration, give,” he says, “the following result:—

" In 75 not submitted to operation, the average duration of life, after the patient's first observation of the disease, has been 48 months. In 64 submitted to operation, and surviving its immediate consequences, the corresponding average has been a little more than 52 months. The longest duration of life, in the former class, has been 216 months; in the latter class, 146; the shortest, in the former, was 7 months; in the latter $7\frac{1}{2}$.

" The proportionate numbers of the deaths* in each year, after the first observations of the disease, may be represented by the following table:—

		With Operation. Per Cent.	Without Operation. Per Cent.
" In the first year, there died		... 4·7	... 8·
" second	"	... 6·25	... 22·6
" third	"	... 21·8	... 24·
" fourth	"	... 14·	... 9·37
" fifth	"	... 20·	... 7·3
" sixth	"	... 11·	... 5·3
" seventh	"	... 9·37	... 9·37
" eighth	"	... 3·12	... 2·66
" years after the eighth	...	9·37	... 12·

" When the extremes of duration are so widely different as they are here shown to be, a perfectly reliable average cannot be obtained, unless the numbers of cases are, on both sides, larger than those supplied by my records.† I believe, therefore, that the results here stated are only near the truth, and that the collection of more cases will in some measure alter them.

" Thus, it is nearly certain that the averages stated above are, on both sides, rather too low, for twenty of the patients (i. e., one-seventh of the whole number) are, or were, still living, after having survived the average time of duration with the disease. Moreover, as cases of the longest duration are the most likely to be lost sight of before their record is completed, it will generally happen that a collection of cases will include a disproportionately large number of those of short duration. Allowing, however, for these causes of reduction in the calculated average durations of life, there appears no reason to expect that any number of completed and unselected cases will prove an average duration of more than five years from the first observation of the disease.

" The sources of error above referred to would, I think, especially reduce the estimate of the average duration of the cases in which no operation is performed; for unless cases are kept with an express intention of recording all that occur, without any selection whatever, there will be a tendency to omit a disproportionate number of those which are not made interesting, either by operations, or by some of those

* With the deaths, I have included in this table the numbers of those who are still living beyond the average period. The omission of them would have made no difference in relation to the questions concerning the influence of the removal of the cancerous breast.

† I could have easily made the numbers larger by including doubtful, or only probable cases of cancer of the breast, but tables so made up seem worse than useless.

striking events which are most common in acute cases. Hence, the records will generally contain too few of the most chronic cases in which no operation has been performed. I have expressly avoided this error in my own note-books, by avoiding everything like a selection of cases for record; but I cannot be quite sure that the same rule has been observed in some of the records from which I have derived cases observed by others. I can find, however, no reason to believe that any full and accurate tables of cases will bring out, as a result, that patients, in whom cancer of the breast is left to pursue its course, live longer, on an average, than those from whom it is removed. Rather, I believe that, if care be taken in the discrimination of the cases appropriate for the operation, and in the rejection of those that are unfit, there will appear a gradually increasing, though it may be always a small, advantage in favour of the cases in which the breast is removed. Probably it may be ascribed, in some measure, to such care, that the additional and continued cases, which I have tabulated in the last two years and a half, make the average duration in those operated on rather longer, and that in those not operated on, rather shorter than it appeared in 1853.

“With regard to the rules that may be observed in the selection of the cases most fit for operation, I may refer to the published lecture; continued observations having only confirmed the statements made therein. I will only refer to one fact, which the table printed above shows—namely, that the proportion of deaths, in the first two years of the disease, is much less in those who are operated upon, than in those who are left, amounting in the former to less than 11 per cent., in the latter to more than 30 per cent. Such a result, while it justifies the operation in cases of acute cancer, which are not attended with evident cachexia, may be fairly set against the mortality from the operation itself, which I still believe to be not less than 10 per cent.

Three cases of Stricture of the Rectum treated by Incision. By
GEORGE MURRAY HUMPHREY, Esq., Surgeon to Addenbrooke's
Hospital, Cambridge. ('Assoc. Medical Journal,' Jan. 12, 1856.)

Mr. Humphrey tells us that he was induced to resort to the knife in the following cases, in consequence of the very indifferent success which had attended the treatment of stricture of the rectum by bougies; and most certainly the result is well calculated to satisfy his expectations, and to furnish much matter for profitable reflection to all surgeons.

We leave the cases to tell their own tale, merely adding that they suggest to Mr. Humphrey the three following hints for the future: 1, to prevent the bowels from acting for several days by means of opium, after having first secured (if possible) their complete evacuation; 2, to divide the sphincter ani as well as the stricture; and 3, to endeavour to insert a tube into the bowel after the division of the stricture. The cases are as follows:

CASE 1.—W. H., æt. 30, a healthy-looking man, was admitted Dec. 17th, 1852, with the usual symptoms of stricture of the rectum. Of these the chief

was great difficulty in passing motions, which were never larger than a tobacco-pipe. Sometimes they were loose; at others, nothing passed without the aid of medicine. The stricture was situated about two inches from the anus, with a sharply defined edge encircling a narrow orifice that would not admit the tip of the finger. Several warty excrescences surrounded the verge. There was a fistulous opening in the perinæum, discharging feculent matter; and the presence of the same matter in the urine, with dirty, purulent discharge from the urethra, and pain in making water, proved that a communication existed between that canal and the rectum.

He said that, about seven years ago, when serving as a soldier in India, he had an attack of dysentery. Shortly after his recovery he was troubled with "piles." A difficulty in passing the motions soon followed, and increased till a twelvemonth ago, since which it had continued about the same. The piles were cut in 1848, which, he thought, aggravated his symptoms. He stated that he never had syphilis.

For some weeks I persevered with the cautious use of the bougie; but, making little or no progress, I determined to divide the stricture with the knife. Accordingly, having passed my left forefinger through the narrow orifice, I introduced a blunt-ended bistoury upon it, and freely divided the stricture and adjacent wall of the rectum on one side, including the sphincter ani. This was followed by very great relief. He was soon able to pass the motions with ease, and continued so much better that, in the latter part of February, he was discharged for a time, at his request. In April he returned, stating that he was still able to pass motions without difficulty or pain; but the fistula in the perinæum remained, and there was still a brownish discharge from the urethra. Accordingly, I laid open the fistula into the bowel. In June he had nearly reacquired the complete control over the sphincter, though, when the motions were loose, they sometimes escaped. He had no difficulty in passing the evacuations, and the discharge from the urethra had ceased. Still there was some contraction of the bowel in the situation of the stricture.

I have not been able to hear any more of this patient.

CASE 2.—A stout woman, æt. 35, admitted in January, 1855. She had syphilis ten or twelve years ago, and suffered from pain and difficulty in defecation, with discharge from the anus, for eight or nine years. About three years ago a gathering formed, burst beside the bowel, and left a fistula. Others had subsequently formed and burst. There were several integumental excrescences about the anus. The finger found the lower part of the bowel uneven and indurated, and encountered a tight stricture about two inches and a half above the anus. The left side of the buttock was indurated, and there were three fistulous orifices; one, four inches behind the anus, through which the probe entered the bowel a little above the external sphincter; a second, three inches to the side of the anus; and a third more in front. The probe introduced into these did not enter the bowel.

Jan. 27th.—When the patient was under the influence of chloroform, I laid open all the fistulæ, tracing their course with the probe as I cut along, to be sure of following them out. Two entered the bowel below the stricture; the third was continued up alongside the stricture. As I could trace it no further, I pressed my finger through the stricture, and, pushing the bistoury alongside it in the ischio-rectal fossa, from the termination of the fistulous track, completely divided the stricture, and laid open the bowel in its lower three or four inches. The incisions requisite to effect all this were very extensive. One vessel bled freely, and was secured by a ligature. A slight attack of erysipelas followed. It did not last long, nor extend far.

When it had nearly subsided I introduced my finger, and, finding the passage quite clear, inserted a small speculum vaginæ, securing it there for twenty-four hours by a bandage. Two days afterwards I passed a large rectum bougie into the colon. No other treatment was adopted, except the occasional introduction of the bougie by herself. Gradually the wounds healed; she acquired the power of retaining the motions, and has not, from the time of the operation, experienced any difficulty in passing them. She reported herself quite well when I saw her about a month ago.

CASE 3.—S. H. æt. 35, a delicate woman, admitted in July 1855, had suffered six or seven years from stricture of the rectum, which had gradually become worse, in spite of the ordinary treatment resorted to on several occasions. Each introduction of the bougie was followed by so great an increase of irritation, that its use was discontinued, and she derived more benefit from cold water clysters than from any other means. Her distress from discharge, frequent worrying action of the bowels, and straining to void the motions, was so great, that she was quite incapacitated for work, and obliged to live by herself. The aperture of the anus was granulated, the lower part of the bowel rather indurated; and the stricture, about two inches above the anus, was so tight, that I could scarcely find the orifice. Encouraged by the ease last narrated, I passed my finger through the stricture when she was under the influence of chloroform, and, guiding a bistoury upon it, cut through the stricture. I endeavoured to insert a tube into the bowel, but relinquished the attempt on finding that it had a tendency to pass into the exposed cellular tissue, where the stricture had been divided, instead of continuing its course in the bowel. Unfortunately the bowels continued in a highly irritable state, and the frequent passage of the motions caused much pain and purulent discharge. These symptoms were combated, to a certain extent, with opium; but the case did not go on so satisfactorily as I could wish. I made no attempts to pass bougies after the operation, because the introduction of my finger, on one occasion, increased her pain for some days. She gradually recovered; and though she still suffers a good deal from slimy discharge and irritation, consequent on a diseased state of the lower bowels, she is able to pass the motions with much less difficulty.

On Mr. Liston's method of holding the Knife in Lithotomy. By
By WILLIAM FERGUSSON, Esq., F.R.S., Professor of Surgery in
King's College, &c. ('Medical Times and Gazette,' April 12,
1856.

The object of the author in this paper (which was read before the Royal Medical and Chirurgical Society, on the 25th of March), is to draw attention to a remarkable error, (as he conceives,) in the illustration of this operation as portrayed in the works of Miller, Pirrie, Erichsen, and even Liston himself. Mr. Fergusson maintains that it was Mr. Liston's practice to cut with the knife underhand, and not overhand, as is represented in all the works just named; and he accounts for the mistake in the engravings by supposing that Mr. Liston's artist, while intent upon the anatomy of the parts, and the position of the point of the knife, had considered the attitude of the hand as of minor importance. He maintains that Mr. Liston has actually misrepresented his own operation; and that his pupils, while professing to describe it, have taken his representation as the model,

and so perpetuated an error which in time might possibly lead to much misapprehension, if not to evil consequences. The paper is accompanied by excellent diagrams, representing, on a large scale, the illustrations from the works alluded to, as well as from the author's own work; and it contains many passages illustrative of the great manual dexterity of the late Mr. Liston, and highly complimentary to that surgeon.

A practical treatise on Diseases of the Testis and of the Spermatic Cord and Scrotum. With numerous wood-engravings. By T. B. CURLING, F.R.S., Surgeon to the London Hospital, &c. Second edition, revised and enlarged. (8vo, Churchill, 1856, pp. 519.)

In this edition some new chapters have been added, many chapters have been rewritten or altered, and all the chapters contain additional facts of practical importance and interest. The work, indeed, is more than ever entitled to be considered as the standard authority on the subject of which it treats.

The author divides his subject into three heads,—diseases of the testis, diseases of the spermatic cord, and diseases of the scrotum. Under diseases of the testis the subjects treated of (a chapter is devoted to each subject) are congenital imperfections and malformations, atrophy, injuries, hydrocele, hæmocele, orchitis, tubercular disease, carcinoma, cystic disease, fibrous tumour, cartilaginous tumour, calcareous deposits, loose bodies in the tunica vaginalis, foetal remains in the testicle and scrotum, entozoa, spermatocele, nervous affections, sympathetic and functional disorders, and castration; under diseases of the spermatic cord, the subjects are varicocele, adipose tumours, and spasm of the cremaster, producing retraction of the testis; under diseases of the scrotum the subjects are injuries, prurigo, varicose veins, pneumatocele, œdeema, diffuse inflammation, mortification, elephantiasis, adipose tumours, fibrous tumours, cystic tumours, and carcinoma. In each of these chapters we might find abundant matter for quotation, but it must suffice to say that everywhere we have evidence of a well-informed and practical writer. The remarks upon cystic disease may serve as a favorable example of the rest, and with these we will content ourselves. After some preliminary remarks, chiefly upon the anatomical characters of the disease, Mr. Curling proceeds:

“ Considerable doubt has long existed in respect to the nature and mode of origin of this disease of the testicle. Sir A. Cooper, who described it under the name of ‘hydatid disease,’ evidently supposed that the cysts might be formed of enlarged and obstructed tubuli; for he remarks, ‘although at first sight they appear to be cysts, yet when traced they are not distinct bags, but send out solid processes by which they are connected with other bags.’* In this opinion I was disposed to concur, the disease appearing to me to be analogous to the cystic tumours of the breast which originate in a morbid dilatation of the lactiferous

* ‘Observations on the Diseases of the Testis,’ p. 83.

tubes. But having subsequently observed in several specimens of cystic testicle healthy tubuli seminiferi forming a layer spread over the morbid mass, generally at its upper part, I was at a loss to reconcile the tubular origin of the disease with this condition of the organ, until the difficulty was solved by careful inquiries which I made in a case favorable for investigation, owing to the early stage of the cystic development.

"In December, 1852, a man, aged thirty-seven, consulted me on account of an enlargement of the testicle, which was first observed about seven months previously. Having no doubt that the disease was either carcinomatous or cystic, I recommended its removal, and performed the operation. The patient recovered favorably, and has since remained quite well. On making a section of the tumour, I found the tubular structure spread over a part of its surface just beneath the thinned tunica albuginea. The morbid mass was a marked specimen of cystic disease. Some of the larger cysts measured half an inch in diameter, but the majority were much smaller, and many were no larger than millet seeds. A great many of the cysts contained a transparent limpid fluid, others a bloody fluid, a few coagulated blood, and several a solid whitish opaque matter. The cysts were embedded in fibrous tissue, which was particularly dense towards the centre of the growth. On examination of thin slices of the tumour in the microscope, the origin of the cysts in a dilatation of tubes was clearly made out. Thus, in some specimens, a tube could be traced to a termination in a dilated pouch. In others a cyst appeared to arise from a lateral dilatation of a columnar tube, or at the extremity of a loop; whilst in others the dilatation appeared to be uniform. These dilated tubes and cysts were lined by a tesselated epithelium, and many of them contained a dark granular matter. The opaque whitish substance found in several of the larger cysts consisted chiefly of a mass of modified tesselated epithelial scales, and corresponded to what is called cholesteatoma. No spermatozoa were detected in any of the cysts or morbid tubes.*

"The minute examination of this specimen fully establishes the origin of the cysts in a morbid condition of the ducts. The circumstance of the healthy tubular structure being found external to the morbid growth, shows that the ducts affected are not the tubuli seminiferi. If the latter were the seat of the disease, we should expect to find the tubes which remained sound, pushed to one side, or at any rate near, or mixed up with, the diseased ducts, and not spread over the surface and distinctly separated from the morbid growth. Nor can the diseased ducts be those of the epididymis, for I have invariably found this part unaffected or wasted and lost in the morbid mass. If the disease sprang from the tubes of the epididymis, the tubular structure of the gland, unless destroyed by pressure, would certainly be found in a mass enclosed in its own tunics, distinct from the morbid growth, and not extended over its surface.

"It being clear, then, that neither the tubuli seminiferi nor the ducts

* A fuller account of these investigations, illustrated by plates, will be found in a paper communicated to the "Medico-Chirurgical Transactions" vol. xxxvi, p. 449. These observations have since been confirmed by examination of another specimen of the disease.

of the epididymis are the tubes which undergo the changes constituting the cystic disease, its seat may be considered as conclusively traced to the ducts of the *rete testis*. Why they alone are subject to the morbid change, I admit my inability to explain.

"I have remarked that small masses of enchondroma are frequently mixed up with the cystic growth. It is clear from recent observations that the enchondroma is originally formed within the tubes and their cystic dilatations. I have examined with Professor Quekett several specimens of cystic testicle in which the intratubular development of the cartilage was quite manifest. The cartilage occurs in elongated portions, which are easily detached from the cysts enclosing them. Enchondroma may be developed so abundantly as to encroach upon and obliterate the cysts, and to form the chief bulk of the tumour. This appears to have been the case in a testicle excised by Mr. Hancock, which I have had an opportunity in examining. It weighed four pounds six ounces, and is the largest cystic testicle I have met with. The development of the cartilage within dilated tubes in this specimen is described and figured by Mr. Hogg in the 'Transactions of the Pathological Society.'*

"The minute examination of these cystic tumours shows the non-malignant character of the disease, which, moreover, is fully confirmed by the accounts of those cases in which the history has been preserved, patients having lived many years after the excision of the organ, and died of a different disease. Yet cases occasionally occur, which strongly tend to shake our confidence in this conclusion. Some years ago, a medical friend, aged thirty-two, was attacked with disease of the testicle. It continued to increase in size, and at the end of eighteen months was excised. On a cursory examination of the tumour, I found it to exhibit the ordinary appearances of cystic disease, blood being, however, extravasated in two or three places, which was attributed to some exploratory punctures made previous to the operation. The patient never regained his health, but remained cachectic. In about six months he suffered from hæmoptysis, which was followed by attacks of severe lumbar pain, and subsequently the liver enlarged to a great size. He died eighteen months after the operation. On examination of the body, masses of medullary cancer were found in the lumbar glands, lungs, and liver.

"In a visit which I paid several years ago to the Museum of St. George's Hospital, Mr. Cæsar Hawkins showed me two specimens of well-marked cystic testicle which had been removed by operation, the patients having died within two years afterwards by internal tumours, and he expressed to me his opinion that this disease was a malignant affection. I have recently made a careful examination of these preparations. The soft matter from the cysts of both tumours, when placed under the microscope, was found to consist of a mass of nucleated cancer-cells. Some of them contained numerous dark granules; and where the diseased mass was the softest, the granules were more abundant than the cells, the cell walls in these instances having been most probably destroyed. In some of the masses portions of ducts filled with cells might be observed. No epithelial scales could be detected in either

of the specimens. In one of them there were some small portions of *enchondroma*.*

"It seems clear from these facts that *cystic* disease occurs in the testicle in two forms, a malignant and non-malignant, the former being far the more rare. And if the histological observations be fully confirmed, the presence in the cysts of tesselated epithelium will indicate the character of the non-malignant, and the presence of nucleated cancer-cells the nature of the malignant. We shall thus be furnished with the means of determining a most important distinction in practice.

"In describing a malignant form of the disease, I do not comprise cases of *encephaloid* cancer in which two or three cysts may be found mixed up with the cancerous matter, but tumours the great bulk of which is composed of cysts of various sizes. Indeed, in a specimen of this form of the *cystic* disease which I have recently examined, the appearances so closely resembled those of the non-malignant form of this affection, that it was impossible to distinguish the difference without the aid of the microscope. It seems probable, however, that although in the early stage of the malignant form the *cystic* structure prevails, that at a later period the cysts become destroyed by the rapid growth of *carcinomatous* tissue. This had probably occurred in a specimen in the *Hunterian Collection* (No. 2416). It is a section of a large tumour of the testicle, the upper part of which is composed of a multitude of small cysts, whilst the remainder exhibits the usual appearances of *medullary* cancer. The patient died of internal cancer a few weeks after the removal of the diseased organ.

"In the preceding account of a *cystic* testicle I have noticed the occurrence, in a few well-developed cysts, of a solid whitish matter, exhibiting the characters of *cholesteatoma*. I have observed isolated formations of the same kind in other *cystic* testicles, both malignant and non-malignant. In a diseased testicle removed by Mr. Henry Thompson last April, and kindly sent to me for examination, I found a combination of *cholesteatoma*, *enchondroma*, and *encephaloma*, with cysts within the dilated and thinned *tunica albuginea*. The *cholesteatomatous* matter existed in great abundance, forming with numerous small deposits of *enchondroma* a portion of the tumour, the upper, distinct from the larger mass below, which consisted principally of *encephaloid* growths and cysts. The two portions were separated by loose seminal tubes. The tubes between the cysts were in some parts unaltered, and in others dilated and filled with changed cells.† The patient, a man aged 25, died about five months after the operation of *medullary* cancer of the lumbar glands, lungs, and other internal parts. In this case, also, it seems probable, that the *cystic* structure was more perfect in the early period of the disease than at the time of the operation.

"*Symptoms.*—The swelling to which the *cystic* disease gives rise takes place imperceptibly, very slowly, and without producing pain. After existing for several months, it occasions a chronic indolent tumour of an

* *Cruveilhier* has described and figured a diseased testicle, which appears to have been a well-marked specimen of malignant *cystic* disease with *enchondroma*. This case has already been referred to at p. 303.

† For fuller particulars of the minute examination of this tumour by Dr. A. Clark and myself, vide 'Transactions of Pathological Society,' vol. vi, p. 241.

oval shape and elastic feel, which is scarcely at all tender or painful. The surface of the tumour is generally smooth and even, but is occasionally irregular. There is sometimes fluctuation consequent on the presence of a thin layer of fluid in the vaginal sac surrounding the cystic growth. When the tumour attains a large size it is inconvenient from its bulk, and unless well supported, it occasions a dragging sensation and uneasiness in the loins. The disease usually commences at the middle period of life: I have not myself met with it later than between the ages of forty and fifty. Its origin is often ascribed to some accidental injury of the part.

“*Diagnosis.*—Cystic disease of the testicle may be mistaken for hydrocele, hæmatocele, and encephaloid cancer. The diagnosis from vaginal hydrocele is extremely easy. The tumour is of an oval shape, not pyriform, as in hydrocele; it feels heavier, and fluctuates less distinctly; and there is an absence of the pain experienced in compressing the part usually occupied by the testicle in hydrocele. The swelling also is not transparent. Notwithstanding these distinctive marks, Sir A. Cooper considered that the surgeon was very liable to err, and he admitted that he had been two or three times mistaken, and had put a lancet into the part expecting to find water issue, and a few drops of blood only have followed. The distinction from hæmatocele is much less marked, as the latter has a somewhat solid feel, weighs heavy in the hand, is not transparent, and fluctuates less distinctly than a hydrocele. The absence of pain on compressing the back of the tumour will be the best guide to distinguish the cystic disease from a hæmatocele. As I have remarked in the previous chapter, the characters of the cystic disease are in general so similar to those of encephaloid cancer, that I can give no satisfactory directions for distinguishing them. The surgeon must be guided in his opinion by inquiries into the history of the case, and by noticing the condition of the cord and of the lumbar glands, and the state of the patient’s health, which are unaffected in the cystic disease, but are liable to suffer in malignant enlargements of the gland. The tumour produced by the latter affection is also less even and regular, and makes more rapid progress than that occasioned by the cystic disease.

“In cases of difficult diagnosis the doubt may, in general, be safely removed by introducing a trocar into the front of the tumour. A hydrocele or a hæmatocele will be at once made evident by the free escape of serum or blood, and a great reduction in the size of the swelling. If the case be cystic disease, only a small quantity of serum tinged with blood will flow; and if it be a soft cancer, blood of a bright colour will probably escape somewhat copiously without producing any diminution in the size of the tumour. In some instances, the existence of the latter disease may be rendered yet more certain by the detection of cancer-cells in the soft matter or fluid found in the canula after its withdrawal. In performing this exploring operation the surgeon should use a common-sized hydrocele trocar. The bore of the exploring trocar, and the groove of the exploring needle, the instruments commonly used, are not of sufficient size to allow of the ready escape of the grumous blood of an old hæmatocele, or of the matter of soft cancer. The wound of the trocar is quite unimportant. In cases in which an operation is likely to be re-

quired, it will often be convenient to defer this exploratory examination until arrangements have been made for further proceedings, if necessary.

“Treatment.—No kind of treatment, either local or general, is of any service in this disease, the morbid changes being quite beyond the influence of remedies. The only means that can be adopted is the removal of the tumour, which should be performed as soon as the surgeon is satisfied that the disease will not yield to treatment. The morbid growth should afterwards be submitted to a minute examination, and if no cancer-cells be found, or if the cysts contain tesselated epithelium, he will be able, with some confidence, to assure his patient of his permanent recovery, and immunity from all risk of a relapse.”

Amputation at the Knee-joint, illustrated by cases which have occurred in American practice, and mainly by those which have been treated in the New York Hospital. By THOMAS MARKOE, M.D., Surgeon to the New York Hospital. (New York Journal of Medicine, January, 1856.)

In a former volume (‘Abstract,’ XX, p. 335) we directed attention to the subject of amputation at the knee-joint, and related four cases in which the operation had been recently performed in this country and in France. In our opinion, indeed, the operation is one of great importance, and we are, therefore, very glad to meet with the very able paper of Dr. Markoe now before us.

In this paper Dr. Markoe relates the particulars of eighteen cases in which the leg has been amputated at the knee-joint during the last four or five years. All these cases occurred in America, ten were in the New York Hospital and three were under the care of the author himself. In addition to the cases also Dr. Markoe furnishes us with some valuable comments, and it is upon these that we propose to dwell.

The results of the operation in these eighteen cases agree with the results of European experience in showing that amputation at the knee-joint is a less fatal operation than amputation through the thigh. Comparing the joint experience of Europe and America in this respect, there is a difference of $6\frac{1}{2}$ per cent. in favour of amputation at the knee-joint.

Knee-joint.	Whole number.	Death.	Per centage.
European practice	28	12	43
American practice	18	5	28
<hr/>	<hr/>	<hr/>	<hr/>
Total	46	17	37
 Thigh.			
Phillips’ cases	987	435	44
American cases	68	29	43
<hr/>	<hr/>	<hr/>	<hr/>
Total	1055	464	43 $\frac{1}{2}$

In studying the history and watching the progress of the ten

cases which have fallen under our own immediate consideration, the following appear to Dr. Markoe as favorable points of comparison between amputation at the knee-joint and amputation through the thigh:

" 1. The crowning advantage of an amputation through the knee-joint, over an amputation through the femur, and the consideration to which all the others are subordinate, and from which they derive their main importance, is, that the stump left, by the former operation, is a useful one, while that left by the latter is a useless one for any purposes of progression. Those who have not been in the habit of observing the adaptation and working of artificial limbs may not be aware that, in the stump left after amputation through the thigh, no pressure can ever be borne upon its extremity, be the bone ever so well covered by soft parts. The extremity of the bone is so small, that any pressure upon it, sufficient to assist in sustaining the weight of the body, would soon be followed by ulceration, and protrusion through the cicatrix. In these cases the artificial limb is so arranged, that the support of the body takes place at the hip, by bands passing round under the tuberosity of the ischium, and round the trochanter; so that, in fact, the patient sits in a sort of cushioned ring, carefully adapted to fit these two bony prominences, while the stump of the femur is received into a conical opening of the artificial thigh, and is only used to direct the forward movements of the limb, and to steady the apparatus, which is bound to it laterally, as firmly as it will bear. It is evident, therefore, that in this apparatus the patient walks, as Velpeau remarks, as if he had an ankylosis of the hip-joint, all his motions being made by the pelvis, and not at the coxo-femoral articulation. This mode of progression, as may be conceived, is not only exceedingly awkward and ungainly, but so laborious that very few persons have strength enough to walk, under these circumstances, with any freedom, or to any great distance. These remarks apply to those who have the means of commanding an artificial limb of the best construction; but, to the laboring man, amputation through the thigh is an absolute and inevitable condemnation to the crutch for life. On the other hand, the stump left after amputation at the knee, if it be a good one, is perfectly capable of sustaining the pressure of the body on a simple cushion. This fact is fully demonstrated by the cases published, both here and abroad. To the poor man this single circumstance makes all the difference, between his being able to earn his living by active employment and his being laid by for life a hopeless cripple. To the rich man, who is able to secure the aid of an artificial limb, it makes the difference between a point of support at the knee and a point of support at the ischium; in fact, it is practically the difference between amputation below, and amputation above, the knee.

" 2. The operation at the knee is farther from the trunk than that through the thigh, and is, therefore, probably, attended with less constitutional shock or depression. I say probably, because this is not a fact which is positively proved by statistical deduction; but, at the same time, it is so entirely in accordance with analogy, and so consonant with the opinion and practice of surgeons in other cases, that it may safely be taken for granted till disproved. I would, myself, be disposed to go

further, and say that, from the nature of the parts cut in the two cases, the thigh operation, where enormous surfaces of muscular tissue are divided by the knife, would be much more depressing to the powers of life than the knee operation, where almost nothing but integument is involved in the incisions,—a consideration which might be of moment in a case where, from shock of injury or from hemorrhage, the reactive forces were so reduced, that a single ounce of blood or a single degree of further depression might fearfully compromise the favorable issue.

“ 3. The section at the knee-joint is, in reality, less extensive than in amputation higher up. No parts are cut but the integuments, and though a large surface is exposed when the flaps are complete, it must be remembered that a great portion of that surface consists of the cartilaginous covering of the femur, a natural, not a wounded surface, and whatever inflammatory changes we might *a priori* fear would take place in it, yet experience thus far clearly shows that this surface plays almost a perfectly passive part in the earlier processes, finally accommodating itself to the adhesive reparative actions in a manner which is not entirely interrupted under the most unfavorable circumstances of exposure and suppuration.

“ 4. In the operation under consideration no muscular interspaces are exposed by the knife, excepting those of the heads of the gastrocnemius, which muscle being divided near its origin, is of small extent and depth. There is, therefore, less chance of suppurative inflammation travelling upwards, in case such inflammation attacks the surface of the stump ; for it is a well-known fact that it is along these interspaces, and among their soft areolar tissue, that abscess is most apt to burrow up the thigh, when the operation is done by section through the bellies of these muscles. The muscles moving the leg upon the thigh are, it is true, divided ; but it will be observed that the quadriceps extensor is divided through the ligamentum patellæ, and the flexors, as well as the gracilis and sartorius, are cut at their tendinous portions and immediately retract in their sheaths, so as to be entirely out of the way ; and it is well known that a clean cut of healthy tendon is almost never followed by any but the simplest and most healthy reparative action.

“ 5. The operation at the knee-joint requires fewer ligatures than amputation of the thigh, and these few consisting usually of the popliteal, the two sural, and the two inferior articular arteries, are cut in such a manner that their orifices are all close together in the centre of the popliteal space. By making, therefore, a small opening through the integument, of which alone the posterior flap consists, we are enabled to bring all the threads of the stump, by a short and direct route, in the most depending position, and thus the space between the flaps and the condyles, where we are most anxious to procure adhesive inflammation, is not fretted into suppuration by the presence of the ligatures crossing it, to be brought out between the lips of the wound.* This procedure was adopted in several of the cases. In several instances no vessel in the anterior flap required ligature, thus leaving the posterior leash of ligatures the only ones in the stump.

* This method of bringing out the ligatures through the posterior flap was first suggested and adopted by M. Blandin.

“ 6. In the knee-joint operation, the muscular attachments, which are concerned in the movements of the limb, are not divided. Those which are severed are merely for the movements of the leg, all the muscles proper of the thigh being left untouched. A singular circumstance results from this, viz., that the patient is able to move the stump with a freedom and facility which is astonishing. This is well seen in the case of a little child on whom Dr. Markoe operated, and the same thing is strikingly noticeable in his second patient,—case No. 3,—so much so that, within a week after the operation, even before the first inflammation had subsided, he was able with ease to lift up, and hold up, his stump, without assistance, to be dressed. From this also it happened that the twitching and jerking, so common and so painful in all newly-made stumps, gave him but little pain, and the little he did suffer seemed to be mainly from the stump being drawn up against the bed clothes, and was entirely prevented by a band passing over the middle of the thigh, and fastened loosely to the bed, so as to prevent the stump from rising high enough to strike the coverings above.

“ 7. An advantage belonging to the knee-joint section, which may be considered as directly resulting from the last-mentioned, is found in the fact that no retraction of the cut muscles can take place after the healing of the wound; by which gradual retraction, it is well known that the muscular covering is generally withdrawn from the end of the bone, and what is called a conical stump is left, in which nothing covers the bone but integument or cicatrix tissue. Dr. Markoe’s experience would lead him to think that, in all cases where divided muscles are united over the end of a bone, as in flap amputation through the thigh, the ultimate result is a complete disappearance, by combined absorption and retraction, of the muscular tissue, which, on the first healing of the wound, gave a thick and promising covering to the end of the bone. It will be found, if the limbs be examined a year after they are healed, that the conical stump above described is the rule and not the exception, and that, in four cases out of five, nothing but cicatrix tissue covers and protects the end of the bone. In the stump left by the exarticulation at the knee we have, it is true, nothing but integument on the face of the stump, but that integument is applied over a large, smooth, natural surface, well adapted to receive and sustain pressure, while the cicatrix, if the operation be properly performed, is thrown backwards in such a manner as to be entirely protected from pressure, in the deep fossa between the projection of the condyles.

“ 8. Last, and not least, of the advantages which the knee-joint section promises over the thigh amputation, is, I think, to be found in the fact, that in one the bone is unwounded, and that in the other it is severed with a degree of violence, the effects of which, perhaps, are not fully appreciated. The effects of this violence, both upon the bone and its envelopes, and of the exposure of the cavity of the medullary membrane, to the action of air and pus, are seen in several of the accidents which occur after amputation, some of which are merely of sufficient gravity to annoy the patient, and prolong the period of his cure; while others are of so great severity and danger as materially to influence the safety of the operation with regard to life. Thus, for example, among the slighter mischiefs of which the injured bone is the source, we have

the exfoliation of a narrow ring of dead bone, which has been killed by the direct violence of the saw. The separation of this ring, with its attendant suppuration, keeps the wound unhealed, and the parts around tender and painful, until the process is complete and the dead bone comes away, perhaps during twice or thrice the period which would be necessary to heal the wound without this complication. Another and much more serious trouble is found in the formation of those long tubular sequestra, which are sometimes found in stumps two or three, or even four months after amputation. The existence of these peculiar sequestra has attracted the notice of most of the systematic writers on surgery; but I have not met with any explanation of the mode in which they are produced, except that Mr. Syme alludes to them, as produced by injury done to the medullary membrane, by which the bone, nourished by that membrane, dies and exfoliates in a tubular form. This is unquestionably correct, as far as it goes; but it leaves unexplained the nature of the injury to the membrane in question, which has such important consequences. This injury may be the result of suppurative action extending along the membrane, and separating it from the bone; but, if this is a possible explanation, the absence of all symptoms of undue inflammation in the cases which have occurred in our hospital forbids its being received as the usual cause of the mischief. I regard it as produced by the severing of the nutritious arteries of the bone, either by the saw, while it is passing through its bony canal, or by the catlin before it has reached the nutritious foramen.* The supply of blood thus cut off from the medullary membrane can only be restored by the anastomosis which it has with the vessels of the spongy portion above. These vessels, however, are supplied with blood from small twigs, which enter the bone at various points around the extremity, and, of course, are contained in unyielding canals. The necessary increase in their calibre, therefore, to supply the wants of the medullary membrane can take place but slowly, and, in the meantime, the small vessels which the medullary membrane sends into the bone are not properly filled, and the death of the bone is produced up to the point where the anastomotic supply is sufficient to save it. The medullary membrane itself, probably, never dies from this cause; but is gradually restored by the supply from above, and goes on secreting new bone on the inside of the sequestrum, while the periosteum is converting the old bone into a thick involucrum outside, so that when it is ready to come away, the sequestrum is found enclosed in a double cylinder, formed by the periosteal involucrum outside, and a smaller medullary involucrum within. These sequestra vary in size from three to seven, or even in one instance on record, to nine inches in length. They are, most commonly, complete cylinders with here and there an opening through them. Through these openings bony granulations may sometimes shoot, if the sequestrum be left too long, by which it may be locked fast in its bed, and may require a

* In order to satisfy myself as to the usual point of entrance of the nutritious artery into the bone, I examined forty-five femora, contained in two of the museums of this city, and found that in twenty-three the nutritious foramen was about the junction of the middle and upper third, and in twenty-two it was at or near the centre of the bone. In several instances it was double. The direction of the canal is always from below upwards.

serious and troublesome operation to extricate it. While thus remaining in the stump, these pieces of dead bone produce all the annoyance to which necrosis of the shaft of the long bones always give rise. The wound does not heal; the end of the stump enlarges by the new bony deposit which forms the involucrum; and extensive suppuration continues from the various sinuses which lead down to the bone, while new abscesses are constantly forming. The suffering and discharge thus continuing are sufficient to keep the patient in a constant state of constitutional irritation, which, in a feeble person, might have the most serious, or even fatal, consequences; and his only relief is to be found in a removal of the cause of offence. When this is taken away (and it can usually be done by seizing the exposed end with a strong pair of forceps, and drawing the sequestrum carefully from its bed), the relief is immediate; the suppuration dries up, the abscesses heal, fever ceases, and the stump rapidly heals. I have dwelt more particularly on this accident, because there is but little said of it in our surgical treatises, and I think it must occur more frequently than is commonly supposed; indeed, Mr Syme makes this one of the considerations which induced him at one time to proscribe, altogether, amputation through the middle, compact portion of the shaft of the femur; he insisted that, to avoid this, as well as other accidents liable to occur in amputation through the middle of the thigh, it was better to make the section of the bone sufficiently high up to pass through the spongy tissue, which has sufficient vitality to enable it to resist the dangers liable to happen when the compact structure is sawed through.

"The effects of this violence to the bone, and of its exposure in a suppurating wound, are also more seriously and more fatally exhibited in those cases where, from some previous vitiation of the system, phlebitis attacks the bone with its destructive and often rapidly fatal consequences. Happily, in our well-ventilated and healthy hospitals, we very rarely see instances of this disease; but, if we may credit the report of some of the surgeons of Europe, suppurative phlebitis of the bones is, with them, a common cause of mortality after amputation of the limbs in their continuity."

Dr. Markoe also enters into several other points, which are of interest to the practical surgeon. He shows that the dangers apprehended from opening so large an articulation as the knee have been greatly exaggerated, and that they are practically of rare occurrence. He also advances reasons for concluding that the best mode of operation, when we have a choice, is by the large anterior and short posterior flap. But for these points, and the rest, we must be content to refer to the paper itself—a paper which will well repay careful perusal.

III.

REPORT ON THE PROGRESS OF MIDWIFERY AND THE DISEASES OF WOMEN AND CHILDREN.

On the action of Digitalis upon the Uterus. By W. HOWSHIP
DICKINSON, Esq., late Obstetric Assistant at St. George's Hospital
(‘Medical Times and Gazette,’ December 15, 1855.)

IN October, 1854, a patient in St. George's Hospital, who was suffering under most severe menorrhagia, was cured (Mr. Dickinson informs us in a paper recently communicated to the Royal Medical and Chirurgical Society) by the infusion of digitalis, exhibited for the relief of a cardiac affection, from which she also suffered. In consequence of this, the author was induced to try, by the permission of Dr. Lee, the same treatment in a series of cases of uterine hemorrhage which had occurred in the hospital. These cases, of which a table is given, are seventeen in number, and the general results of the treatment is as follows:—In every case of uterine hemorrhage unconnected with organic disease requiring the employment of active remedies, admitted into the Hospital after October, 1854, the administration of digitalis was had recourse to as the sole treatment, and the discharge was invariably arrested by it. The time which elapsed before the hemorrhage subsided varied with the dose in which the digitalis was exhibited. When large doses were given, as an ounce to an ounce and a half of the infusion, the discharge never appeared after the second day; when smaller doses, it never continued beyond the fourth day. In uterine hemorrhage connected with organic disease, the remedy acted with less certainty; its exhibition was required for a longer time, and the effect was sometimes transient. The author then speaks of the mode in which the digitalis operated in controlling uterine hemorrhage; and, after concluding that its effect could not depend on the sedative influence of the drug in the heart and arteries, he shows, by various experiments and observations, that the arrest of the hemorrhage is due to the action of the digitalis on the ganglia of the uterus, by which the organ is stimulated, and muscular substance powerfully contracted.

Since the reading of this paper we have had repeated opportunities of putting this treatment in practice at the Westminster Hospital, and in this way we are able to confirm what is here stated respecting it. We have no doubt indeed as to the very marked and special influence of digitalis in arresting hemorrhage from the uterus; but

we have some difficulty in agreeing with Mr. Dickinson about the *modus operandi* of the medicine. Digitalis is unquestionably a sedative in its action, and we cannot see why it should not cause the muscular fibres of the uterus to contract by virtue of this sedative action (v. 'Abstract,' XXII, p. 272.) Be this as it may, however, the clinical fact remains, and this is one of no small practical importance.

On Flooding before Delivery, and especially on a new principle and method of treatment of Placenta Prævia. By Dr. BARNES. ('Medical Times and Gazette,' December 29, 1855.)

The paper, of which the abstract is subjoined, was read before the Medical Society of London on the 22d of December, 1855. In this paper the author passes in review the actual state of obstetric science and practice in relation to the pathology and treatment of placenta prævia, and shows that the prevailing belief is, that so long as the delivery of the child is not effected there is no security against hemorrhage, and that hence the rule in practice of proceeding to forced delivery as early as practicable was almost universally inculcated, the only exception consisting in the more or less general substitution of the plan of totally detaching the placenta. The author thus shows that, while the practitioner was anxiously waiting for the moment when the dilatability of the cervix uteri would permit the passage of the hand, for the purpose of turning, the patient might perish of flooding; and that, therefore, in the most severe class of cases, those of central placenta, some other resource, some means of placing the patient in security against renewed flooding, before the full dilatation of the os, is eminently desirable. Dr. Barnes then explains the physiological course of a labour with placenta prævia, and the mode in which nature sometimes arrests the hemorrhage before the expulsion of the child. He shows, by the help of an ingenious and interesting diagram, that a stage of labour arrives when the recurrent contractions of the womb do not entail any further flooding; that the pains return in their usual course, with the usual effect of further dilating the os uteri, and forwarding the labour, but without causing any further flooding; that the labour was in fact resolved into a natural one, and would be safely concluded by the natural powers. Reflection upon these cases has led Dr. Barnes to doubt the truth of the obstetric dogma, which declares that there is no security against hemorrhage, so long as the presence of the liquor amnii or the child in the womb prevent full contraction. Dr. Barnes then unfolds the anatomical, physiological, and clinical facts which lead him to the conclusion that, under proper restrictions, Nature might in many cases be trusted to with more confidence than was generally believed. The clinical facts, he says, had come to him first, and led him to examine into the anatomical and physiological bearings of the case. He relates cases in illustration, and quotes a commentary upon one of these cases from a memoir he had published ('Lancet,' 1847), in order to establish his priority in the enunciation of the views he now laid before the Society; and

adverted to the fact that he had, since the publication of that memoir, constantly taught, in his lectures on midwifery, the same doctrine ; and stated that, even the original of the diagram now exhibited, rudely sketched, was also figured in the memoir referred to. He has, therefore, believed his views to be original, and was surprised to find, in several numbers of the 'Berlin Monatschrift für Geburtshkunde' for the present year, a controversy between Dr. Cohen, Dr. Credé, and Professor Hohl, in which Dr. Cohen for the first time expounded similar views to his own, whilst Dr. Credé, referring to writings of 1853-54, also claimed them ; and Professor Hohl assigned them to Dr. Zeitfuchs so far back as 1843. Dr. Barnes acknowledged, with pleasure, that Dr. Cohen's views of 1855 fully confirmed those put forth by himself in 1847 ; but he found, in the writings of Credé and Zeitfuchs, nothing whatever to show that either had, in the remotest degree, possessed himself of the points in question. But Cohen had gone beyond the author in proposing a new operation based upon the physiological and clinical facts expounded. This operation consists in—1. Determining the side of the uterus to which the smaller flap of the placenta is attached ; 2. In rupturing the membranes and detaching the placenta from this half of its circumference ; 3. Exciting uterine contraction ; 4. Hooking finger over edge of placenta, tearing membranes from the freed border of the placenta ; and 5. In separating the placenta in a circumference of 190° to 200° . The greater half of the placenta, now freed from the dragging of the lesser half and membranes, is now drawn back, just as in placenta lateralis, with the uterus. From this moment there is no further danger. Cohen insists, like the author, on the impropriety of hastening labour unless urgent complications arise. Dr. Cohen refers to his experience to prove the efficacy of this method, but does not recite any cases in illustration. Dr. Barnes pointed out that the difference between his memoir and that of Dr. Cohen consisted simply in this :—Cohen had, in 1855, carried forward the principle Dr. Barnes had enunciated in 1847, by proposing the artificial partial detachment of the placenta, instead of trusting, as Dr. Barnes had recommended in certain cases, the execution of this operation to the powers of nature. The author then quotes from Sir Charles Hill, passages showing that the anatomical distribution and physiological action of the muscles of the uterus accorded with and explained the clinical facts observed in the course of intermissions and cessations of hemorrhage from placenta *prævia* as set forth by Dr. Barnes. The author then explains the mode and mechanism by which the hemorrhage in placenta *prævia* is arrested. The opening of the mouth of the wound, and the detachment of the placenta adhering to this part, are effected by the active contraction of the longitudinal muscles of the uterus ; this active contraction shortens the cervix, when it intermits, a passive contraction goes on, which maintains or even increases the shortening of the cervix. This shortening necessarily compresses the torn mouths of the vessels and checks the flooding caused by each successive detachment of fresh placenta, until the detachment has gone to the boundary line, beyond which point the further expansion of the cervix has no effect, and when all fear of

flooding is at an end. It was not therefore necessary that the uterus should be empty in order to arrest the flooding. This arrest depended upon the contraction of the cervix, which went on, although the fundus and walls were prevented from contracting. Dr. Barnes submitted the following as some of the conclusions deducible from his researches :—

1. In cases of placenta *prævia* the hemorrhage is sometimes arrested spontaneously before the complete detachment of the placenta, before the discharge of the liquor amnii, and consequently before the expulsion of the child, or the pressure of its head against the cervix.

2. That this spontaneous arrest of the flooding is owing to the sealing up of the vessels torn by successive detachments of placenta, and the attainment of a stage of labour when no further detachment can take place until after delivery.

3. That dangerous and even fatal flooding sometimes occurs while the os uteri is still closed, and so undilatable as to render it impossible or inexpedient to have recourse to forced delivery.

4. That in such cases it is eminently desirable to possess some means of diminishing the hemorrhage until the hand can be passed through the os uteri.

5. The spontaneous or artificial detachment of the cervical portion of the placenta competes with two most formidable operations, dangerous to mother and child—forced delivery, and the total separation of the placenta. The new principle of treatment may, in many cases, supersede forced delivery altogether ; since the patient being secured against further flooding, to resort to turning when the flooding has ceased is an unnecessary proceeding, although the os uteri may admit of it. In many more cases this principle will be the means of gaining the necessary time to admit of turning or other modes of forced delivery being performed with safety. In almost every case it may supersede the practice of wholly detaching the placenta, since the end in view being the arrest of the flooding, it is better to detach only just so much of the placenta as will effect this end, than by detaching all, to destroy the child.

Dr. Barnes concluded by a particular exposition of the application of his views to the varieties of placenta *prævia* occurring in practice.

Tabulated account of sixty-nine cases of Labour in which the Ergot of Rye was administered. By R. U. WEST, M.D., of Alford, Lincolnshire. ('Medical Times and Gazette,' Dec. 22d, 1855, and Feb. 9th, 1856.)

The object of this tabulated account is to obtain an answer to the question whether or not the use of ergot of rye in obstetric practice is so injurious as some late writers would have us to believe. The question is one of some difficulty, but there is no reason to doubt that blame has been ascribed to the ergot where no blame was due. This is well seen in a case of twins which occurred to Dr. R. U. West in 1853.

"When I first arrived at the house of my patient, finding the os uteri in a thick, rigid, and undilatable state, I waited," says Dr. West, "a few hours without doing anything. I then, when the os was in a more favorable condition, gave a full dose of ergot, because the pains were very inefficient. In an hour, the child was born—dead. Now, the pains had been anything but continuous; on the contrary, the intervals were unusually long and complete; that between the two last pains which attended the expulsion of the head having been at least five minutes in duration. The child had every appearance of having been alive up to the time of birth, and though there was no pulsation in the funis, yet the umbilical vessels felt full. This, then, thought I, must be an example of the specific bad effect of the ergot. But, when the child was removed, I placed my hand on the abdomen of the mother, and found there was another child. And in a quarter of an hour a second child was born *footling*, very lively and vigorous. Now, surely any specific poisonous influence of the ergot must have been experienced by both children, and more by the second than by the first, in proportion to the greater length of time during which it was exposed to it."

This being the case, Dr. West thought it desirable to endeavour to arrive at something like a conclusive opinion upon the subject, and in order to this he decided on tabulating the essential particulars of a number of *consecutive* cases in which he might from any reason think it expedient or useful to administer the ergot. These cases, which are sixty-nine in number, are related with great care, the state of the os uteri when the ergot was given, the interval between the dose and the birth of the child, the condition of the fetus, the character of the pain produced, the previous condition of uterine action, the manner in which the mother recovered, and several other points of interest, all being carefully noted. Our space will not allow us to give the table, and we must therefore content ourselves with referring to it, and with giving Dr. West's conclusions:

"With reference to the probability of the ergot causing the death of the fetus, I may observe that, in the whole number of 69 cases, there were 9 still-births, viz., in cases 2, 5, 16, 19, 23, 33, 39, 56, 67. All the other children were born more or less lively and vigorous. Of case 25, where the fetus survived its birth only half-an-hour, I ought to observe that the mother usually gave birth to still-born or similarly feeble children. Certainly, her three previous children were in this condition, no ergot having been given. From this list of 9 still-births we may at once exclude cases 19 and 33, the putridity of the fetuses in these two cases having proved that they had died some days before the commencement of labour. Cases 5 and 39 were attended with considerable hemorrhage during or immediately preceding the labour, a circumstance of itself quite sufficient to account for the death of the children. In case 67 the death of the child was undoubtedly caused by pressure on the funis during the difficult delivery of a hydrocephalic head in a case of feet presentation. Four still-births remain to be explained, viz., in cases 2, 16, 23, and 56. Let us examine these cases. In case 2, although the pains were improved, yet they could scarcely be said to be *ergotic*, the intervals of ease between them being unusually long and perfect. The child was born fifty minutes after the administration of ergot. The case resembles that reported in

the *Association Journal*, as far as regards the first-born of the twins, with this exception, that the funis was not round the neck. I cannot explain the death of the foetus in case 2, when I compare it with the other cases in this report. In case 16 we had the same long intervals between the pains, and the woman was much longer under the influence of the medicine. The head lay for an hour on the perinæum, and the funis was prolapsed over the shoulder. Now, this shoulder had a very congested appearance; and I am inclined to think that, during the lengthened period of the head lying on the perinæum, the funis was compressed in that situation, so as to stop its circulation, so that the child's death need not be attributed to the poisonous influence of the ergot. Nay, further, I would maintain that the ergot, by hastening the birth, would be more likely to prevent the death of the child, in such a case, than to cause it. I think that, if the *vectis* had been used much sooner than it was, the child might have been saved. In case 23 the woman had excessive oedema of the lower extremities, extending to the vulva, and was in a bad state of health generally. The labour was unusually severe, and the child's head was much pressed during the dilatation of the very rigid cervix uteri. There were surely here other causes of danger to the foetus than the ergot. In case 56 the child died manifestly from congestion of the head, caused by pressure in a severe instrumental primiparous labour. So much for the danger to the foetus. Do the cases just referred to, when compared with the large number in which, under all sorts of unfavorable circumstances, and with a duration of the labour process, under the influence of the ergot, varying from a quarter of an hour to three and four hours, the foetus was born lively and vigorous, prove anything whatever against the ergot of rye? I certainly think not.

"Neither do I think that the ergot does the mother any harm. In all the cases tabulated the mothers recovered; in the great majority of them without any bad symptoms whatever. No. 5 had an alarming attack of tympanitis, simulating puerperal fever, but she had been much weakened by hemorrhage in the commencement of the labour. Case 22 does not need any observations. No. 55 had precisely the same symptoms after her first confinement as in this, her third; and that first confinement was so quick, that her child was born before my arrival, no ergot having been given, of course.

"All the women recovered. But this was not the case with all that I attended during the period included in what I may call these experiments, viz., from January 1, 1854, to November 25, 1855. Nos. 2235—2300, and 2349, in my register, died within the month, and none of these had had the ergot during their labours. No. 2235 died of mania on the 20th day. No. 2300 had had dysenteric diarrhoea for more than a month before her confinement, which was premature, and was followed by adherent placenta. She had had no Medical advice until her labour commenced, and her child was born before my arrival. She died of exhaustion on the 11th day. No. 2349 died of uterine phlebitis, of which she felt the first symptoms during the second week, her death taking place on the 20th day of lying-in; a young primipara confined of twins; easy labour, both footling; no ergot given.

"Has the ergot any effect in producing or preventing retention of the

placenta? Neither the one nor the other. During the period of these experiments I had six cases of retained or adherent placenta, requiring the introduction of the hand, viz., in cases 2169, 2237, 2298, 2300, 2400, 2435. The ergot was given in case 2169, but in none of the others.

“It will have been observed that, in many of the cases, the ergot was given while the os uteri was nearly closed, rigid, and undilatable. As this practice is contrary to the rules, for such a condition made and provided, I must make a few observations on the subject. In such cases as Nos. 5 and 39, in both of which the labour had commenced with profuse gushes of hemorrhage, the placenta having been, probably, implanted somewhere near the os uteri, the practice is, I believe, sanctioned and enjoined by the best authorities. But what of other cases, where there is no risk to the patient in waiting for nature to play her proper part in the business, which she is certain to do—in time? Why, surely something may be urged on the side of the accoucheur. It is no joke to be carried off seven or eight miles away from home, and to find, on your arrival, that your patient has taken the alarm at the first little twinge, and despatched her husband, ‘bloody with spurring, fiery hot with haste,’ for the doctor. John Chamomile arrives; there is a prospect before him of having to wait perhaps twenty-four hours. He has a large practice, and no assistant, and all his patients must be neglected: perhaps the Squire’s, or the Rector’s lady may be hourly expecting her little affair to come off, and, with her double or triple fee—that bright oasis in the desert of poor Chamomile’s experience, may fall into the hands of his gaping rival—him of the ‘opposition brass plate.’* If he hint at the propriety of his leaving the patient, and returning home for a few hours, the husband, anxious to behold the face of his first-born, and all the old wives, who have been summoned to assist at the interesting event, protest vehemently against such a proceeding; besides, John Chamomile, being no judge of horseflesh, is generally cheated by his kind neighbours in that article, and, consequently, cannot afford to make two long journeys where one will do, let alone his own bodily fatigue,—pretty sure, as he may be, that the hot-headed husband will, reason or none, fetch him again in a few short hours. What is poor Chamomile to do in all this perplexity? Having a resource within his reach, which will, in all probability, send him on his way rejoicing, back to the delights of Opodeldoc lodge, in three or four hours at the furthest, it is small blame to him, if—

* He gently prevails on his patient to try
The magic effects of the ergot of rye.”—TENNYSON.

“Does he do any harm either to mother or child? Let my Table answer that question. I need only refer to Case 35, in which the efficacy of the medicine was strikingly apparent in rendering the os uteri dilatable, when it had been very rigid during many hours of useless

* Chamomile has a great deal at stake in this matter besides his fee;—there is his social position!—It is really $\zeta\eta\nu\ \eta\ \theta\alpha\nu\epsilon\nu$ with him; for is he not “well with the squire, and on dining terms with the rector?” *Vide Sketch of John Chamomile, in the “Times” leader, January 23, 1851.*

suffering. In many cases of rigid os uteri, it is uterine action that is wanted. The patient may have pains, but they are not of the right sort, until after the grand specific has been taken. It is best, however, to wait a few hours, say three or four, before giving the medicine, and if you can then manage to get the tips of two fingers into the os uteri, it may be safely given, and with certain advantage.

"I think I may conclude this paper in the words with which I concluded my report of the case of twins above referred to:—'I am quite sure that the ergot of rye, when given with the ordinary precautions, does no harm to the mother, and I am very doubtful about its hurting the child.'"

Case of Spontaneous Delivery after the death of the mother. By M. DECHAMBRE. ('Gaz. Hebd. de Méd. et Chir.,' Feb. 22d, 1856.)

The following case is taken from the Parisian journal 'La Presse,' by M. Dechambre, the learned and accomplished editor of the 'Gazette Hebdomadaire de Médecine et de Chirurgie.' It made a great sensation in the Faubourg du Temple in Paris, where it occurred, as it appears, in February last, but it is not given with any circumspectness. There need be no doubt, however, as to its authenticity.

Commenting upon this case, M. Dechambre is disposed to ascribe the expulsion of the foetus to the pressure exercised upon the uterus by the development of putrid gas in the abdomen after death. To us, however, the case has a different signification, as may be gathered from the views we hold in connection with muscular contraction (v. 'Abstract,' XXII, p. 272). But be this as it may, the fact is of extreme interest both in a physiological and clinical point of view, and we must not neglect to preserve it in our pages.

CASE.—The patient was a lady, Madame X—, at. 24, who had died of typhoid fever after an illness of three or four days. All the arrangements for the funeral were complete, and the coffin containing the corpse was exposed at the entrance of the house. The mourners were also assembled, and the time for placing the corpse upon the hearse was drawing nigh, when all present were horrified by seeing blood dripping from the badly made coffin upon the pavement. The report spread to the neighbourhood like wildfire, and an immediate examination of the corpse was demanded. An examination was made, and this led to the discovery that Madame X— had been in the fourth month of pregnancy, and that she had been delivered in her coffin about seventy hours after death. There are no further particulars, except that the examination was made by two physicians, under the inspection of M. d'Agnès, Commissary of Police.

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